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Department of  
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Forest  
Service

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# **Environmental Assessment**

## **Cook County Land Exchange**

### **Superior National Forest**

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## CHAPTER 1 PURPOSE AND NEED

### 1.1 Introduction

This chapter describes the purpose and need for a land exchange between the United States and Cook County. The proposed action provides information on the process, and outlines the issues related to the purpose and need and proposed action.

The analysis, initiated through the National Environmental Policy Act (NEPA) process, provides the framework for determining and disclosing the effects of the proposed land exchange. Direct, indirect and cumulative effects associated with the exchange and related activities will be considered in this Environmental Assessment (EA).

### 1.2 Organization of the Environmental Assessment

This Environmental Assessment (EA) is organized into four chapters with appendices and follows the format established by the Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508) for implementing the National Environmental Policy Act (NEPA). The major sections of the EA are as follows:

- **Chapter 1: Purpose and Need.** This section provides introductory material that explains the purpose and need for the proposed action, provides background information about the project area, presents the pertinent laws and regulations, and describes the issues to be addressed.
- **Chapter 2: Alternatives.** This section describes the No-Action Alternative and the action alternative, both of which are analyzed in detail in Chapter 3. This chapter also includes mitigation measures and monitoring procedures that would be used in implementing the action alternative. A summary comparison of the environmental effects for each alternative is also provided.
- **Chapter 3: Affected Environment and Environmental Effects.** This section describes the affected environment and the direct, indirect, and cumulative effects likely to occur with the implementation of each alternative.
- **Chapter 4: References.** This chapter provides names of the preparers and contributors to this Environmental Assessment, and a distribution list.

An important consideration in the preparation of this EA was the reduction of paperwork as specified in 40 CFR 1500.4. The objective is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental effects of the alternatives and how any adverse effects can be mitigated or avoided. Additional supporting information is in the Cook County Land Exchange Project Record and is available at the Tofte Ranger District Office in Tofte, Minnesota, or upon request.

### 1.3 Purpose and Need for Action

The USDA Forest Service (FS) has an opportunity to complete a land exchange with Cook County, Minnesota; hereinafter referred to as Cook County. The FS would acquire approximately 1,910 acres from Cook County: see Land List in Appendix D. In exchange, the FS would convey ownership of the federal land of up to 1,580 acres to Cook County; see Land List in Appendix E. The two purposes for proposing this land exchange are as follows:

- 1) The purpose and need is to acquire and consolidate National Forest System land in the Boundary Waters Canoe Area Wilderness (BWCAW). According to the Superior National Forest Land and Resource Management Plan (*Forest Plan*), acquisition of County administered lands within the BWCAW is Priority 1 (Forest Plan, p. 2-51, G-LA-2; see also p. 3-64). Priority 1 includes key tracts that are needed to protect and manage administrative or congressionally designated unique, proposed, or recommended areas. G-LA-5 (Forest Plan, p. 2-52) states that acquisition of State holdings (which includes Cook County lands) through land exchange will be limited and only if the public interest is well served. All of the proposed lands are desirable for inclusion in the National Forest System. The decision on this project will include rationale on public interest based on public input, professional knowledge and the information in the EA and project record.
- 2) The purpose and need is to allow for sustainable development for Cook County and to achieve federal cost savings in special use administration which in turn will result in more logical and efficient management.

### 1.4 Proposed Action

The Forest Service proposes to exchange up to 1,580 acres for 1,910 acres of Cook County owned land. See Appendix A for the vicinity map of the lands to be exchanged. Appendix E contains the federal lands list and is listed in priority order. The final acres to be exchanged would reflect balanced values. The possibility that all of the federal land will be necessary or that the federal land list will be inadequate is low.

Exchanges are based on equal value rather than equal acreage. Either side may, however, equalize differences of up to 25% of the value of the federal land by the payment of cash.

Cook County parcels are owned by the State of Minnesota in trust for the local taxing district, but are administered by Cook County, and will hereby be referred to as Cook County lands.

The Cook County lands that the FS would acquire are widely scattered, noncontiguous lands distributed throughout the Cook County portion of the BWCAW. Some of these lands are easily accessible by water and portages, other more remote parcels have no water, trail or portage access. There are no structures or developed campsites associated with any of the county lands though some of these lands could be used by the occasional camper. A land list is attached as Appendix D and Appendix B contains the maps of Cook County land proposed for acquisition.

The federal lands that Cook County could potentially acquire are scattered throughout Cook County. The County Board passed a resolution on August 18, 2009 with priorities identified for the exchange; they are gravel supply, septage disposal, communication towers, fire halls, affordable housing, recreation opportunities, cemetery, and economic development sites. Maps are located Appendix C. As recently as 2012, Cook County confirmed its land list with slight revisions from the 2009 resolution, and confirmed the following potential future uses: communication towers, fire halls, gravel, septage disposal, recreation, and development.

A land list is attached as Appendix E. The list is in priority order; if all lands are not needed to equal the value of the County lands parcels that were rated a lower priority will be dropped from the exchange. The final configuration of federal lands to be exchanged will depend on the appraised values and management efficiency of the resulting NFS land pattern.

Existing reservations and third party equities on the federal parcels include:

Public Road Easement issued to Cook County<sup>1</sup>

Devil Track Road (County Road 8): T62N, R1E Section 30.

Gunflint Trail (County Road 12): T64N, R1W Sections 9 & 10; T65N, R4W Section 26.

Caribou Trail (County Road 4): T60N, R3W Sections 23 & 24.

County Road 18: T62N, R1E Sections 30 & 31

Forest Road 304: T62N, R1E Section 24

Tower and Support building owned by Cook County on federal land<sup>2</sup>

Gunflint Tower: T65N, R3W Section 30

Bogus Tower: T62N, R2E Section 12

Honeymoon Tower: T61N, R4W Section 34

Mid-Trail Tower: T64N, R1W Section 10

Fiber Optic and Electric Transmission Lines issued to Arrowhead Electric<sup>3</sup>

T65N, R3W Section 30; T62N, R2E Section 12 & 24; T64N, R1W Section 10; T62N, R1E Section 30 & 31; T65N, R4W Section 26; T59N, R4W Section 29; T60N, R3W Section 23 & 24.

Telephone, Power line and Fiber Optic issued to Quest<sup>4</sup>

T62N, R1E Section 30 & 31; T59N, R4W Section 29; T60N, R3W Section 23 & 24

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<sup>1</sup> The easements will be eliminated due to Cook County being the permit holder.

<sup>2</sup> The permits will be eliminated due to Cook County owning the tower and support buildings and being the permit holder.

<sup>3</sup> Cook County has agreed to honor all existing uses by Arrowhead Electric.

<sup>4</sup> Cook County has agreed to honor all existing uses by Quest.

Private Road Easement<sup>5</sup> – T62N, R1E Section 31

Private Mobile Radio Service<sup>6</sup> – T63N, R1E Section 33

Fish Hatchery issued to MN DNR<sup>7</sup> – T62N, R1E Section 31

Border Route Trail and Trailhead<sup>8</sup> – T64N, R3E Section 4

## 1.5 Background

### Origins of the Project

The Superior National Forest has been working with Cook County since the 1990's to develop the proposal for this land exchange. Yet the genesis of this exchange has its roots in the establishment of the BWCAW. When the BWCAW was established, the uses and values of County lands therein were affected due to laws and regulations applying to wilderness management, including access to those County lands.

Access to Private Lands under Section 1323(a) of the Alaskan National Interest Lands Conservation Act (ANILCA) provides for a right of access to non-federally owned land as follows:

“Notwithstanding any other provision of law, and subject to such terms and conditions as the Secretary of Agriculture may prescribe, the Secretary shall provide such access to nonfederally owned land with the boundaries of the National Forest System as the Secretary deems adequate to secure the owner the reasonable use and enjoyment thereof: Provided, that such owner comply with rules and regulations applicable to ingress and egress to or from the National Forest System,” 16 U.S.C. §3210.

Uses of property which are consistent with zoning laws and do not threaten to violate any other statutes would most likely be considered “reasonable”.

The Wilderness Act, 16 U.S.C.A. §1134 specifically addresses access to non-federal inholdings within wilderness areas as follows:

“In any case where State-owned or privately owned land is completely surrounded by national forest lands within areas designated by this chapter as wilderness, such State or private owner shall be given such rights as may be necessary to assure adequate access to such State-owned or privately owned land by such State or private owner and their successors in interest, or the State-owned land or privately owned land shall be *exchanged for federally owned land in the same State* of approximately equal value under

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<sup>5</sup> Cook County has agreed to honor the existing private road easement.

<sup>6</sup> Cook County has agreed to honor the private mobile radio service.

<sup>7</sup> Cook County has agreed to honor the uses and maintenance of the MN DNR fish hatchery.

<sup>8</sup> An existing road reservation will be included in the deed to Cook County.

authorities available to the Secretary of Agriculture.” 16 U.S.C.A. §1134(a)(emphasis added.).

“In any case where valid mining claims or other valid occupancies are wholly within a designated national forest wilderness area, the Secretary of Agriculture shall, by reasonable regulations consistent with the preservation of the area as wilderness, permit ingress and egress to such surrounded areas by means which have been or are being customarily enjoyed with respect to other such areas similarly situated.” 16 U.S.C.A. §1134(b). At the heart of this issue regarding access is the scope of the Forest Service’s authority to regulate activities off federal lands when the effects of those activities can be felt on federal lands. The United States Court of Appeals, Eighth Circuit, evaluated this authority in its opinion specifically related to the BWCAW in *Minnesota v. Block*, 660 F.2d 1240 (8<sup>th</sup> Cir. 1982), concluding:

“Under [its] authority to protect public land, Congress’ power must extend to regulation of conduct on or off the public land that would threaten the designated purpose of federal lands. Congress clearly has the power to dedicate federal land for particular purposes. As a necessary incident of that power, Congress must have the ability to insure that these lands be protected against interference with their intended purpose.”

The Fifth Amendment provides in part, “nor shall private property be taken for public use without just compensation.” Executive Order 12630 directs federal agencies to evaluate carefully the effect of their administrative and regulatory actions on constitutionally protected property rights. Accordingly, it was identified as a priority for the Forest Service to conduct a land exchange with the Counties to consolidate federal ownership inside the wilderness.

The Superior National Forest has enjoyed a good relationship with Cook County. Even though Cook County currently has no intention to actively manage its lands within the wilderness, the county could in the future pursue managing these lands for development, use and/or sale. Within the last fifteen years, Cook County has proposed to lease county lands located in the BWCAW for private recreation sites and business opportunities. Cook County would have attempted to lease county lands for seasonal recreation residences, outfitting camps and businesses, and other uses that take advantage of the unique recreational opportunities provided by the surrounding wilderness area. Nothing in the 1964 Wilderness Act, 16 U.S.C. 1131 *et seq.*, or the 1978 BWCAW Act, Pub. L. 95-495, prohibits Cook County or a private landowner from leasing or renting land situated within the BWCAW, but the federal government has the authority to regulate activities that would interfere with the purpose of these Acts. Future Uses of Federal Land

In August of 2009, the Cook County Board of Commissioners passed a resolution with the following priorities for lands needed by Cook County, those priorities are listed below.

1. Gravel supply sites
2. Septage disposal sites
3. Communication tower sites
4. Fire hall sites
5. Affordable housing units
6. Recreation opportunity sites

7. Cemetery sites
8. Economic development sites

During the scoping period, the Forest Service consulted with Cook County to more specifically identify the reasonable foreseeable uses of the lands to be exchanged with the purpose listed as “miscellaneous” or “recreation/development” (see land list Appendix C). An e-mail from Cook County documenting this consultation is in the project file. They listed Fire Hall expansion, senior housing, septic disposal and recreation trails for use by students at Birch Grove School and the community.

As recently as 2012, Cook County confirmed its land list with slight revisions from the 2009 resolution, and confirmed the following potential future uses: communication towers, fire halls, gravel, septage disposal, recreation, and development.

#### Future Uses of Non Federal Land

Under the action alternative, the County land would be managed by the Forest Service in accordance with Forest Plan direction and applicable laws for wilderness management.

Further discussion on effects from future uses of the lands to be exchanged under each alternative are found in Chapter 3 of this EA.

#### Minerals:

Federal Lands: All minerals not outstanding third party will be reserved by the U.S.A.

County lands: All minerals not outstanding in third party will be reserved by the State of Minnesota. State statute stipulates that minerals will be retained.<sup>9</sup>

#### Wetlands and Floodplains:

*Wetlands:* There would be a net wetland acreage gain of approximately 137 acres to the federal estate. (Federal land includes approximately 168 acres of wetland. Nonfederal land includes approximately 305 acres of wetland).

*Floodplains:* There is no federally-designated flood hazard areas on the federal lands proposed for exchange.

Executive Order (E.O.) 11990 requires that the proposed exchange preserve wetland functions with no net loss to the Federal estate. E.O. 11988 requires that the exchange not increase flood hazards to the non-Federal estate. The requirements of E.O. 11990 and E.O. 11988 would be satisfied if the value of the wetlands or floodplains for properties received and conveyed is equal (balancing test) and the land exchange is in the public interest. If the exchange is consummated as proposed, the conditions of E.O. 11990 and E.O. 11988 will be met pursuant to the balancing test.

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<sup>9</sup> Minn. Stat. 282.20 provides that the sale of tax-forfeited lands shall be subject to exceptions and reservations in the State of all minerals and mineral rights. Minn. Stat. 94.344 Subd. 4 provides that all tax-forfeited lands conveyed in exchange shall be subject to the same reservations required by law in case of the sale of tax-forfeited land.



## **1.6 Management Direction, Laws and Policy**

### **1.6.1 National Policy**

This land exchange is proposed under the authority of the Weeks Act of March 1, 1911, as amended; the Federal Land Policy Management Act of October 21, 1976, as amended; the Federal Land Exchange Facilitation Act of August 20, 1988 and the General Exchange Act of March 20, 1922.

#### Public Interest Determination

The authorized officer has the responsibility to determine if the proposed exchange serves the public interest (36 CFR 254.3 (b)(2)) and supports the direction and guidance in the forest land management plan. Factors that must be considered in a public interest determination for a proposed land exchange are listed in Title 36, Code of Federal Regulations, section 254.3(b)(1) (36 CFR 254.3(b)(1)). The public interest determination must show that the resource values and the public objectives of the non-Federal lands equal or exceed the resource values and the public objectives of the Federal lands and that the intended use of the conveyed Federal land would not substantially conflict with established management objectives on adjacent Federal lands, including Indian trust lands. The findings and supporting rationale shall be made part of the decision (sec. 34.1).

### **1.6.2 Forest Plan Compliance**

This EA tiers to the Final Environmental Impact Statement for the 2004 Superior National Forest Land and Resource Management Plan (Forest Plan). The exchange would comply with all standards, guidelines and other management direction in the Forest Plan. As stated in Section 1.2 Purpose and Need, the exchange would implement direction in the Forest Plan for land exchanges, including acquiring County administered lands in the BWCAW (Forest Plan, p. 2-51, G-LA-2) and direction on conveyances (Forest Plan p.2-52, G-LA-3 b, c and d).

#### **1.6.2.1 Federal Tracts**

The federal tracts are in the General Forest Management Area (MA), General Forest Longer Rotation MA, and Recreation Use in a Scenic Landscape MA. The desired condition is to allow for sustainable development for Cook County and to achieve federal cost savings in special use administration which in turn will result in more logical and efficient management.

#### **1.6.2.2 Non-Federal Tracts**

There are four management areas in the BWCAW (Forest Plan pp. 3-43 to 3-46) and the Cook County lands are in three of the four management areas; Pristine, Primitive, and Semi-primitive non-motorized.

## **1.7 Decision to be Made**

Brenda Halter, Forest Supervisor, Superior National Forest, is the Responsible Official for the Cook County Land Exchange project. The decisions to be made include:

- Which actions, if any, will be approved?
- What mitigation measures, if any, will be approved?
- Will the project have a significant impact that would lead to preparation of an Environmental Impact Statement?

The Land Exchange is an activity implementing a land management plan and not authorized under the Healthy Forest Restoration Act; therefore the Land Exchange decision is subject to Forest Service regulations at 36 CFR 218, Subparts A and B.

Only individuals or organizations who submit timely and specific written comments as defined at 36 CFR 218.2 regarding the proposed project during a public comment period established by the Responsible Official are eligible to file an objection to the decision on the Land Exchange.

### **1.8 Issues Related to the Proposed Action**

Public issues and management concerns related to the proposed action were identified through internal and external scoping processes. Public comments were solicited from potentially interested parties in a letter dated November 15, 2012; and from a legal notice that was published in the Cook County News Herald on November 24, 2012. In addition, the county commissioners, congressional delegation, tribal governments and other interested parties were contacted. No comments were received from tribal governments or their representatives. An interdisciplinary team of Forest Service employees identified issues and concerns based on the public input.

A record of issues identified, publics contacted, and comments received are documented in the project file at the Forest Supervisors Office, in Duluth, MN.

Issues are points of disagreement, debate, or dispute about the potential effects of a proposed activity and are based on some anticipated outcome. Issues are used to develop alternatives. These issues drive alternatives because of the extent of their geographic distribution, the duration of their effects, or the intensity of resource conflict. Issues that do not prompt the development of alternatives are those that are not within the scope of the proposed action, are not relevant to the decision to be made, are already decided by law, regulation, or policy, are conjectural or unsupported by scientific evidence or are limited in extent, duration and intensity.

All comments received during the public scoping period were considered by the interdisciplinary team. Using the definitions listed above, the IDT categorized the comments as issues that drive alternatives, issues that do not drive alternatives and non-issues. The Project Record contains the comments received and how they were categorized (Issue and Non-Issue Cook County Land Exchange Scoping Summary, Project Record).

Devil Track Parcel: T62N, R1W Section 21 SESW – There were numerous comments received on this parcel. Concerns were safety on County Road 8 with additional truck traffic, noise at the

Devil Track Campground and the homes along Devil Track Lake from noise of gravel operations and additional truck traffic, and also concerns to Junco Creek with the access to gravel operations. Cook County agreed to remove this parcel from the exchange during the County Board of Commissioner's Meeting held on February 12, 2013.

There were no issues identified from the comments received that prompted the development of additional management alternatives (although the Proposed Action was modified by dropping the Devil Track Parcel from the exchange). The following issues will be analyzed briefly in the Environmental Assessment:

- Effects to 1854 Treaty Rights,
- Effects to Heritage Resources,
- Effects to Mineral Materials
- Effects to Wetlands, Riparian Areas and Water Quality
- Effects to Threatened, Endangered and Sensitive Species,
- Effects to the Boundary Waters Canoe Area Wilderness.

### **1.8.1 Value of Parcels to be Exchanged/Economics**

Some people expressed concern that the exchange would not result in a fair value being traded between the Forest Service and Cook County.

This exchange is value for value. The Forest Service is not allowed, by law, to exchange acre for acre. The Federal Land Policy and Management Act (FLPMA) of Oct. 21, 1976 (43 U.S.C 1716, 1717) requires that properties be equal in value; if the values are not equal, either party may make them equal by payment of cash not to exceed 25 percent of the Federal value. Value is determined by an appraisal.<sup>10</sup>

The lands will be appraised spring of 2014. Final values will be released in the decision document if an action alternative is selected. Lands to be appraised will be subjected to the hypothetical condition that they are available to the open market and are zoned as if already in private ownership. The appraisal will also include historic, wildlife, recreation, wilderness, scenic, cultural, or other resource values as reflected in prices paid for similar properties in the competitive market (36 CFR 254.9 iii). There will be no analysis of monetary values in Chapter 3.

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<sup>10</sup> Forest Service appraisals must comply with Uniform Standards of Professional Appraisal Practice and Uniform Appraisal Standards for Federal Land Acquisitions

### **1.8.2 1854 Treaty Rights**

Some people expressed concern that the project would result in a reduction in acreage of lands subject to 1854 Treaty rights, and for access to lands.

#### Indicators

- Change in acreage of land subject to 1854 Treaty rights
- Access to land for hunting, fishing and gathering

### **1.8.3 Heritage Resources**

#### Indicators

- Heritage resources affected

### **1.8.4 Mineral Materials**

#### Indicators

- Amount of mineral materials available for Forest Service use

### **1.8.5 Wetlands, Riparian Areas and Water Quality**

Some people expressed concern that development of gravel pits resulting from the exchange could affect wetlands, riparian/shoreline areas and water quality of Lake Superior because of gravel operations and possible sedimentation.

#### Indicators

- Acres of Wetland Received and Conveyed
- Number of Dwellings Per Mile of Shoreland

### **1.8.6 Threatened, Endangered and Sensitive Species**

Some people expressed concern that the project could affect habitat for threatened, endangered or sensitive species through conversion of forest land to other uses (e.g. gravel operations, towers, fire halls etc.).

#### Indicators

- Acres of snowshoe hare habitat
- Acres of denning habitat
- Acres and percentage of lynx habitat currently unsuitable on all ownerships
- Road and compacted trail density on all ownership
- Land ownership pattern
- Miles of temporary and OML 1 roads

### **1.8.7 Boundary Waters Canoe Area Wilderness**

#### Indicators

- Remoteness from occupied and modified areas outside the wilderness

## CHAPTER 2

### DESCRIPTION OF ALTERNATIVES

#### 2.1 Introduction

This chapter describes the action alternative, the no action alternative, and the alternatives that were considered but eliminated from further analysis.

After developing a proposed action (Alternative 2), the Forest Service Interdisciplinary Team (IDT) consulted with interested members of the public, representatives of other agencies and corporations, and other Forest Service specialists, to identify issues and concerns. The proposed action was modified in response to scoping comments; however no issues were identified during the scoping period that prompted the development of additional alternatives to be analyzed in detail.

In accordance with the National Environmental Policy Act, a no action alternative (Alternative 1) is included in this analysis. This alternative is intended to show the environmental and social effects of no action, as well as to provide the deciding officer with the option of no action.

#### 2.2 Alternatives Analyzed in Detail

##### Alternative 1, No Action

This alternative serves as a baseline with which to compare the effects of the action alternative. No land exchange would occur.

##### Non-Federal Lands

The Federal government would not acquire non-federal lands. These lands would remain as Cook County lands under the No Action Alternative. The values these lands provide to recreation and the forest ecosystems of the area described in Section 1.3 of the EA would continue to persist.

There are legal and logistical restrictions to modifying county lands within the BWCAW. While it may be *theoretically* possible to do some logging or other more intense activity on these county lands, it is likely that the intensity of activity on the ground within the BWCAW on the county-owned lands is the same as the adjacent federally-owned lands within the BWCAW. However, the possibility exists that Cook County could pursue managing these lands for development, use and/or sale.

##### Federal lands

The Federal government would not convey federal lands to Cook County and the Forest Service would continue managing these lands as has been done in the past, with continued administration of existing special uses. The level of development and acceptable activities would be regulated

by Agency and Superior National Forest policies. Management would include vegetation management, recreation, wildlife, watershed and other uses identified in the Forest Plan. These lands are in General Forest, General Forest –Longer Rotation, and Recreation Use in a Scenic Landscape Management Areas.

### **Alternative 2, Proposed Action.**

This alternative would be the land exchange described in Section 1.4 of this EA. The future uses of the land are described in Section 1.5 of this EA.

#### Non-Federal Lands

The Federal government would acquire Cook County lands in the BWCAW. These would be managed according to direction on wilderness management in the Forest Plan and applicable law, regulation and policy.

The entire BWCAW is within a Wilderness Management Area that is managed to be compatible with wilderness character. Management activities that modify the landscape on federal lands within the BWCAW are generally limited to prescribed burning.

#### Federal lands

The Federal government would convey federal lands to Cook County. These lands would be managed for Communication Sites (towers), fire halls, gravel supply, septage disposal, affordable housing, recreation opportunities and economic development sites. Applicable federal, state and county laws, regulations and ordinances would regulate these activities.

## **2.3 Alternatives Considered But Eliminated from Detailed Study**

The following alternatives were considered by the interdisciplinary team but have been dropped from further consideration because the proposals cannot be acted upon at this time, are represented in the alternatives analyzed in detail, or do not meet the purpose and need identified in Chapter 1.

### **2.3.1 Direct Purchase**

Direct purchase was eliminated from detailed study for several reasons. First, it would not meet the purpose and need to allow for sustainable development for Cook County and to achieve federal cost savings in special use administration which will result in more logical and efficient management (existing special use permits on federal lands outside the wilderness would continue under a direct purchase alternative). Second, the funds for direct purchase of the Cook County lands in the BWCAW are not currently available.. Finally, Cook County is not interested in selling the lands in the BWCAW to the Forest Service.

### **2.3.2 Avoid exchanging land with Cook County in order to: avoid effects to natural and social resources from development, retain lands outside the BWCAW in federal ownership, and avoid loss of lands subject to 1854 Treaty rights**

These alternatives are represented by the no action alternative which is analyzed in detail.

## 2.4 Comparison of Alternatives

This section will provide an overview of the differences in the effects of each alternative.

### Comparison of acres included in the exchange

Table 2.4-1 shows the estimated difference in the number of acres that would be included under each alternative.

	Alternative 1	Alternative 2
Acres of federal land conveyed	0	<u>Up to</u> 1,580.69
Acres of non-federal land acquired	0	1,910.76

Table 2.4-1 Acres of land conveyed and acquired

### Comparison of environmental and social effects of alternatives

Table 2.4-2 compares the environmental and social effects of the alternatives. Chapter 3 of the EA contains further discussion on the environmental effects of the alternatives.

	Alternative 1	Alternative 2
<b>Tribal Communities</b>		
Gain in acres under federal management in 1854 territory (acres)	0	Gain of at least 330 acres
Net Change in acres of public lands that can be accessed by tribal communities (acres)	0	Gain of at least 330 acres
<b>Heritage Resources</b>		
Effect to heritage resources	No effect	Potential adverse effects to heritage resources will be mitigated through the Section 106 process

<b>Water Resources</b>		
Shoreline Development Intensity (Dwellings per mile)	2.4	2.5
Gain of Wetland Resources to the federal estate (acres)	0	137
<b>Threatened, Endangered and Sensitive Species</b>		
Canada Lynx, Threatened	No effect	Not likely to adversely affect
Sensitive Animals	No effect	May impact individuals but not likely to cause a loss of viability
Sensitive Plants	No effect	May impact individuals but not likely to cause a loss of viability
<b>Wilderness Character</b>		
Change to wilderness character	Negligible or none	Moderate short term and varied long term localized adverse impacts

Table 2.4-2 Summary of environmental and social effects

**Comparison of how the alternatives meet the purpose and need**

Alternative 1 would not meet the purpose and need since the exchange would not occur. In this alternative, the Forest Service would not acquire Priority 1 lands in the BWCAW. Neither would ownership and land management efficiency be improved through conveying federal lands to Cook County.

Alternative 2 would meet the purpose and need since the exchange would occur. In this alternative, the Forest Service would acquire Priority 1 lands in the BWCAW. Ownership and land management efficiency would be improved through conveying federal lands to Cook County.



## CHAPTER 3

### ENVIRONMENTAL CONSEQUENCES

#### 3.1 Introduction

This chapter discloses the environmental effects that would occur under each of the alternatives described in Section 2.2. Environmental effects include physical, biological, social, and economic factors and changes that would occur under the action and no action alternatives. Environmental effects will be considered from a direct, indirect, and cumulative effect perspective. The transfer of ownership in and of itself does not constitute an effect. Rather, physical effects on the landscape are a result of activities resulting from the implementation of management plans. This chapter discloses the effects of future uses of the land as described in Section 1.5.

The interdisciplinary team (IDT) examined and analyzed the proposed land exchange to determine the effects on the various resources. The data and level of analysis were commensurate with the importance of the possible impacts (40 CFR 1502.15). The effects are quantified where possible, although qualitative discussions are included. Acreage figures are estimated based on information from the Superior National Forest Geographic Information System (GIS) database and other sources. The accuracy of the estimated acreage is sufficient for the analysis.

The IDT is aware of possible inaccuracies and limitations of the data. The forest is highly variable and constantly changing and not all data is current. However, the IDT concluded it is the best available forest information and is adequate for analysis and drawing conclusions. Additional data and accuracy would add precision to estimates or better define a relationship; however, the basic data and central relationships are sufficiently well-established in the respective sciences that additional accuracy is unlikely to reverse or nullify understood relationships. Thus additional information would be welcomed and add precision but it is not considered essential to provide adequate information for the decision-maker to make a reasoned choice among alternatives.

Environmental effects are the consequences of implementing an alternative on the physical, biological, social, and economic environment. Three levels of effects will be discussed for each indicator:

- **Direct effects** are impacts that occur at the same time and place as the initial action.
- **Indirect effects** are impacts that occur as a result of the initial action but are either later in time or are spatially removed from the action, that is, occur in a different place.
- **Cumulative effects** result from the incremental impacts of actions when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such further action. These actions are described in Appendix F. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Sections 3.2 through 3.8 provide the effects that the project would have on the relevant resources.

## 3.2 Tribal Communities

### 3.2.1 Introduction

Tribes are sovereign nations. The United States government and its departments, including the USDA Forest Service, have a responsibility to recognize this status. The federal relationship with each tribe was established by, and has been addressed through, the Constitution of the United States, treaties, executive orders, statutes and court decisions. Government-to-government consultation between the federal government and federally recognized American Indian tribal governments acknowledges the sovereign status of these tribes. This consultation supports Executive Order 13175 (November 6, 2000), which recognizes the sovereignty of federally recognized American Indian tribes and the special government-to-government relationship.

Beginning in the mid-nineteenth century, the government of the United States made treaties with the Ojibwe that ceded areas of land in northern Minnesota to the federal government. In return, specific reservations were created for the tribes' use and other considerations specified. The treaties also preserved the right of the Ojibwe bands to hunt, fish and gather off the reservations within the treaty area. Tribal interests and uses on National Forest lands are protected through various statutes. The federal trust doctrine requires that federal agencies manage the lands under their stewardship with full consideration of tribal rights and interests, particularly reserved rights, where they exist.

The Superior National Forest has a role in maintaining these rights because it is an office of the federal government responsible for natural resource management on lands subject to these treaties. The Superior National Forest is located on lands ceded by the Ojibwe to the United States in 1854 and 1866. Three bands; Grand Portage, Fond du Lac, and Bois Forte, live in proximity to the Forest and are directly affected by the treaties. The bands consider many areas in the Superior National Forest important for cultural, historic, traditional and spiritual reasons.

Article 11 of the 1854 treaty states that Ojibwe within the treaty area would continue to have the right to hunt and fish on lands they ceded. A court decision, *Fond du Lac Band of Chippewa v. Carlson*, has confirmed this right to hunt, fish and gather without regulation by the State of Minnesota.

This guarantee is important in the context of natural resource management. Forest direction is to generally assure the availability of resources to support the continued exercise of treaty rights and cultural practices, including access to such resources and places or traditional practices. The objective is to maintain sufficient availability of resources to support the continued harvest or utilization needed to satisfy tribal needs. Important considerations include trends in species viability and watershed conditions as well as changes in access to traditional places. The area of consideration includes lands of other ownerships within and adjacent to the National Forest System (NFS) boundaries. Tribal interests extend beyond NFS land; this larger area lends a broader landscape perspective to maintaining ecological sustainability on the forests.

During the development of the Feasibility Analysis, which was published in August of 2012, Forest Service staff shared information on the Cook County Land Exchange project with 1854 Treaty Authority, and the Bois Forte, Grand Portage and Fond du Lac Bands. Also on April 27,

2012, Deputy Forest Supervisor Tim Dabney met 1854 Treaty Authority, and invited the three Tribal Chairs, to update them on the status of exchange. Additional informational on the exchange was sent to the three Tribal Chairs and to 1854 Treaty Authority dated November 19, 2012, during the scoping period.

### **3.2.2 Analysis Methods**

During consultation, tribal representatives stated their main interests in land exchanges are to keep the same or increase the amount of:

1. Public land within the 1854 Treaty Ceded Territory
2. Shoreline
3. Wetlands
4. Culturally important natural resources used in exercising Treaty rights of hunting and fishing and cultural or religious properties, including access to resources.

### **3.2.3 Analysis Parameters**

#### **The 1854 Ceded Territory**

On September 30, 1854, a treaty was concluded at La Pointe, Wisconsin, between the United States and bands of Lake Superior and Mississippi Chippewa (Ojibwe). The Lake Superior Bands included the La Pointe Band, the Ontonagon Band, L'Anse Band, Vieus De Sert Band, the Grand Portage Band, the Fond du Lac Band, the Lac Cort Oreille Band, the Lac du Flambeau Band, and the Bois Forte Band. The Mississippi Bands ceded their interest in the territory in consideration for the Lake Superior Bands ceding their interest in lands farther west.

The territory ceded by the Treaty of La Pointe encompasses much of the Arrowhead Region of Minnesota. The north boundary is the international boundary with Canada and the eastern boundary is generally Lake Superior; the south boundary was set at the "southern boundary-line of the Chippewa country." The western boundary is more complicated, consisting of lines connecting the Snake, St. Louis, East Swan and Vermilion Rivers. All of Lake and Cook Counties are included as well as most of Carlton and about two-thirds of St. Louis County. Small portions of Aitkin and Pine counties are also included. Most of the Superior National Forest is within this area.

Rights were retained under the Treaty of 1854 to hunt and fish within the Ceded Territory. Article 11 states, "And such of them [Chippewas of Lake Superior] as reside in the territory hereby ceded, shall have the right to hunt and fish therein, until otherwise ordered by the President."

Reservations for all the Bands of Lake Superior Chippewa except the Bois Forte Band were established in Article 2. Of the nine bands, three reside in Minnesota within or adjacent to the ceded territory and the other six in Wisconsin. The Fond du Lac Band has a reservation in Carlton and southern St. Louis Counties. The Grand Portage Band has a reservation in Cook County in the extreme northeastern tip of the Ceded Territory. The Bois Forte Band has reservations on Vermilion Lake in St. Louis County and at Nett Lake in St. Louis and Koochiching Counties.

The analysis timeframe is 5 years in the past to 5 years in the future. This allows for consideration of recent or upcoming land exchanges with an identified proposal that may affect acreage of federal estate in the 1854 ceded territory.

### **3.2.4 Affected Environment**

#### **Tribal Cultural, Economic and Governmental Interests**

Culture is the whole set of learned behavior patterns common to a group of people at a certain period of time, as well as their interactive behavior systems, material goods or thoughts and beliefs. People rely on their culture in order to live, relate to others as collective groups, and know how to both understand and function in their world. On the Superior National Forest, the Ojibwe tribal culture is dominant.

The continued availability of traditionally utilized natural resources is crucial to Ojibwe culture. Now, as in the past, many places throughout the landscape are visited during a yearly cycle to collect food, medicines and other materials, as well as for religious practices and social gatherings. Plants and animals gathered from prairie openings, aquatic environments and forests provide sustenance. The traditions of gathering these and other natural resources continue to be economically and spiritually important. Because of their concern with the continuation of this aspect of Ojibwe culture, the bands take an active role in the protection and restoration of many species of plants, animals and fish. The bands also claim that access to these resources and traditional cultural places is an inherent right.

Use of the natural resources for economic benefit is important to many band members through employment and the operation of various forest product businesses. The federal, state, county and tribal governments themselves provide employment opportunities in natural resource management and there is interest in terms of job training, fire fighting, contracts for construction and forest management, and state and private forestry rural assistance opportunities. There is also widespread use of forest products tied to the gathering for personal, traditional and treaty purposes; this includes fishing, hunting, trapping, harvesting wild rice, tree boughs, saps, roots, bark, berries, medicines, firewood and other items.

There are numerous areas throughout the Superior National Forest that have traditional, cultural and spiritual significance to the bands. The use and protection of these areas is a way of maintaining traditional links to past generations. Traditional use areas often have some aspect of spiritual significance. The bands believe that archaeological sites and past cemetery areas, many of which are unplatted, are sacred and should be protected.

The Ojibwe interest in the forest goes beyond that of spiritual and cultural to the unique legal relationship that the United States government has with tribal governments. These federally recognized tribes have sovereign status.

### **Environmental Consequences**

#### **3.2.5 Direct and Indirect Effects**

### **Alternative 1 (No-action)**

There would be no changes to the following indicators:

1. Public land within the 1854 Treaty Ceded Territory
2. Shoreline
3. Wetlands
4. Culturally important natural resources used in exercising Treaty rights of hunting and fishing and to cultural or religious properties, including access to resources.

### **Alternative 2**

1. Federal land within the 1854 Treaty Ceded Territory

The final acres to be exchanged would reflect equal values. The possibility that all of the federal land will be necessary is relatively low but, if all were necessary, there would be a net gain of at least 330 acres under federal management within the 1854 ceded territory. Cook County is not a formal member of the 1854 treaty and government to government relations are not required by law. Tribal access to Cook County lands would be the same as any other person hunting or gathering within Cook County.

2. Shoreline

There will be a gain of up to approximately 12 miles of lake shore under federal management within the 1854 ceded territory.

3. Wetlands

There would be a gain of 137 acres of wetland to the federal estate. A protective deed restriction will be attached to the parcels with wetlands if an action alternative is selected.

4. Culturally important natural resources used in exercising Treaty rights of hunting and fishing and cultural or religious properties and access to resources.

The tribes are interested in the culturally important natural resources in the lands involved in the exchange. It was not anticipated that there would be any concerns in this regard for lands that would be conveyed to Cook County. The land being acquired in the BWCAW includes approximately 12 miles of lakeshore. Further investigation of parcels containing unevaluated heritage sites and parcels identified for additional survey needs to be conducted prior to implementation. If the investigation determines that any of the resources are eligible for consideration and/or protection under federal laws, then appropriate mitigation would need to be developed to protect them from effects from future possible development.

As noted in the heritage resources specialist report, if the investigation determines that any of the resources are eligible for consideration and/or protection under federal laws, then appropriate mitigation would need to be developed to protect them from effects from future possible development.

### **3.2.6 Cumulative Effects**

The proposed Northmet Land Exchange, if approved, may increase federal ownership in 1854 Treaty lands by about 72 acres (see Northmet Project scoping report, project file). The Crane Lake Land Exchange will result in a net loss of 87 acres of 1854 Treaty lands and a gain of 41.3 acres of wetlands (see Crane Lake Land Exchange Environmental Assessment, project file). When the three land exchanges are considered together, there would be a net gain of at least 315 acres of 1854 Treaty lands and net gain of 178.3 acres of wetlands under federal ownership. The Forest will continue to use the exchange process as a tool to consolidate ownership and will analyze them on a case by case basis. Forest Service personnel will meet with the Tribal communities to address the Tribes interests and concerns prior to any land exchange being developed.

### **3.2.7 Conclusion**

There would be no change to the tribal communities under Alternative 1. Under Alternative 2 the land being conveyed to Cook County would be subject to typical hunting and gathering regulations that the general public follow. The land to be acquired within the BWCAW, though not surveyed for cultural significance, was likely of importance to Tribal ancestors. There would be a gain in shoreline and wetlands to the federal estate. There would be no loss of culturally important resources or cultural or religious properties to the federal estate.

### **3.3 Heritage Resources**

#### **3.3.1 Introduction**

##### **Background**

The National Historic Preservation Act (NHPA) of 1966, as amended, provides the legal framework for heritage resource management. Federal Regulations 36 CFR 800 (Protection of Historic Properties), 36 CFR 63 (Determination of Eligibility to the National Register of Historic Places), 36 CFR 29 (Protection of Archaeological Resources), the Forest Service Manual 2360 (FSM2360), and Chapter 2 of the Superior National Forest Land and Resource Management Plan (July 2004) provide the basis of specific Forest Service heritage resource management practices. Section 106 of the NHPA requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the National Register of Historic Places (NRHP). The NHPA also provides federal agencies with a specific process of consultation and mitigation regarding agency effects on eligible or unevaluated historic properties.

Agencies responsible for oversight of the Section 106 process include the relevant State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP). Tribal Historic Preservation Officers (THPOs) are also involved in the process, if undertakings are proposed on Indian Lands. Because Superior National Forest lands are roughly concurrent with the boundary of the 1854 ceded territory, the Forest routinely consults with THPO staff from the Grand Portage, Bois Forte, and Fond du Lac Bands of Lake Superior Chippewa. The vast majority of undertakings proposed on the Superior National Forest are considered ‘no effect’ projects, as adverse effects are generally mitigated prior to implementation. Land Exchanges are considered projects that have the potential to adversely affect heritage resources (if present), as the proposed parcels will lose protections afforded under federal cultural resource laws, such as the National Historic Preservation Act, the Archaeological Resource Protection Act, among others. If an agency such as the Forest Service determines that a project will have an adverse effect on an eligible historic property, then it must (1) prepare a Preliminary Case Report requesting the comments of the ACHP, (2) notify the SHPO of this request, and (3) undertake the consultation process set forth in 36 CFR 800.6. Under the consultation process set forth in 36 CFR 800.6, the agency, the SHPO, and the Executive Director of the ACHP are the consulting parties who must “consider feasible and prudent alternatives to the undertaking that could avoid, mitigate, or minimize adverse effects on a National Register or eligible property (36 CFR 800.4).” The consulting parties must then execute a Memorandum of Agreement (MOA) either specifying how the adverse effect will be avoided or mitigated and specify any recording, salvage, or other measures to minimize the adverse effects that shall be taken before the undertaking proceeds (Ibid). Once the MOA is signed and implemented it evidences the agencies compliance with Section 106 of the NHPA. The Superior National Forest has developed a Programmatic Agreement (PA) Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act, which was signed by ACHP, SHPO, and the Fond du Lac, Bois Forte and Grand Portage Bands of Lake Superior Chippewa. The Programmatic Agreement



streamlines the 106 process and allows ‘no effect’ projects to be reported in bulk to PA signatories at the end of the fiscal year.

Several other laws address various aspects of heritage resource management on the National Forest, including the National Environmental Policy Act (NEPA) of 1969, the National Forest Management Act (NFMA) of 1976, the Archaeological Resources Protection Act (ARPA) of 1979, the Historic Sites Act of 1935 and the American Antiquities Act of 1906. ARPA and two other regulatory acts describe the role of Tribes in the federal decision-making process, including heritage management. ARPA requires tribal notification and consultation regarding permitted removal of artifacts from federal lands. The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 recognizes tribal control of affiliated human remains and certain cultural items on public lands and requires consultation prior to their removal. The American Indian Religious Freedom Act (AIRFA) of 1978 requires federal agencies to consider the impact of their actions on traditional Tribal cultural sites. The National Historic Preservation Act also directs federal agencies to include Tribes in the Section 106 consultation process.

This section evaluates the potential effects on heritage resources of the alternatives, including the No-action Alternative (Alternative 1). The Affected Environment section provides a summary of heritage resources that have been identified within the project area, and discloses previous heritage surveys. Over the last thirty years, the Forest has conducted archaeological field surveys throughout the project area. Information presented in the Affected Environment section is the basis for the analysis of effects on heritage resources, presented in the Environmental Consequences section. The Forest Service fully intends to apply the Section 106 process to all heritage resources that have not been found ineligible for the National Register (i.e., all eligible or unevaluated heritage resources).

### **3.3.2 Analysis Methods and Parameters**

When an undertaking, such as a land exchange, is proposed on Forest Lands the first step in understanding the potential effects posed to heritage resources is to review prior heritage survey coverage and site location data. Federal lands proposed for conveyance to Cook County were reviewed for prior survey coverage and the presence of previously recorded heritage sites using the Forest’s GIS layer for heritage resources. The Forest also analyzed the need for additional heritage survey within Federal parcels proposed for exchange. In order to determine site probability within these parcels, the Forest used prior survey coverage data, LIDar, topographic features, and historic aerial photographs to calculate if there was a moderate-high probability of unrecorded heritage sites being present. Those parcels lacking adequate prior survey that have been identified as having a moderate-high probability for heritage resources will be surveyed prior to exchange. The heritage resource inventory entails intensive field surveys of the Federal parcels by professional archaeologists walking the area of potential effect (APE) with the intent of locating and recording all heritage resource sites. The APE, which includes the acreage of all Federal parcels, defines the scope of the cultural resources analysis for this EA. The following analysis is a summary of the full cultural resource inventories, which are contained in their entirety in the project file. If heritage resources are identified, the Forest will apply 36CFR800 and consult with interested parties. Interested parties would include the MN SHPO and Tribal Historic Preservation Officers (THPOs) within the 1854 ceded Territory. Note that non-federal lands proposed for acquisition in the Boundary Waters Canoe Area Wilderness (BWCAW) were not surveyed or included in analysis since no potential effects to these parcels would result from

Alternative 2. This is because future management of these lands would be as per Forest Plan direction for heritage resources (see Forest Plan p. 2-38 to 2-39) and wilderness management. Any potential sites located on Cook County lands proposed for transfer to the Superior National Forest would receive greater protection than they are currently receiving, as all federal heritage resource protection regulations would apply.

### 3.3.3 Affected Environment

The analysis area includes the parcels to be conveyed to Cook County under Alternative 2. The land proposed to be transferred to Cook County (40 individual parcels) totals approximately 1580.69 acres, with 513.19 acres of the total determined to have never been previously surveyed for heritage resources. Since 1979, thirty-five heritage resource surveys have been conducted in or within a half-mile of the project area (Table 3.3-3). Performed in conjunction with earlier Forest Service management activities, these surveys were conducted by professional heritage resource specialists and complied with all applicable Federal laws and standards. Of the total 1580.69 acres of land in the proposed exchange with Cook County, 235 acres were determined to require new inventory prior to implementation. The acreage requiring additional heritage survey is within 6 parcels, which are identified in Table 3.3-2. Two of the parcels proposed for exchange to Cook County contain unevaluated heritage sites (n=3). These sites (FS#02-302; 02-303; and 02-009), all of which are historic, include collapsed bridge remains, a ruined dam, and a ruined fire lookout location. In order to protect these sites from unpermitted collection or damage, the approximate locations will be withheld from disclosure under 36 CFR 296.18, however the general site location and character information will be available in the project record. As previously mentioned, ten of the forty parcels proposed for transfer from the USFS to Cook County were identified as lacking adequate survey coverage and having a moderate-high probability of containing heritage resources. The 6 parcels identified as having moderate-high archaeological probability will be surveyed for heritage resources prior to exchange. While preliminary review of the data for the previously recorded sites suggest that the sites lack integrity, the Forest will formally evaluate these sites for inclusion to the National Register of Historic Places prior to transfer. In the event that these previously recorded sites are found eligible, the Forest will consult with interested parties and follow the procedures set forth in 36CFR800.4-36CFR800.7. The same criteria will be applied to any yet unknown sites potentially discovered on the 6 parcels identified as needing additional heritage resource survey prior to implementation. A summary of the heritage resource sites identified in the project area is shown in Table 3.3-1. A summary of parcels needing survey prior to exchange is shown in Table 3.3-2.

Table 3.3-1: Heritage sites located in Project Area

Site #	Site Name	Type	NR Stat	Detail
02-302	Hop Sing Bridge	Historic	Unevaluated	Ruined Bridge
02-303	Dusty Day Dam	Historic	Unevaluated	Ruined Dam
02-009	Pine Mtn Lookout	Historic	Unevaluated	Ruined Lookout Tower

Table 3.3-2: Parcels identified for further survey prior to exchange

<b>Parcel #</b>	<b>T-R-S</b>	<b>Quarters</b>	<b>Acres</b>	<b>Notes</b>
29	64N3E4	NESE	35	High probability unsurveyed
8	62N1W21	NESE	40	Moderate probability unsurveyed
7	62N1W21	NWSE	40	Moderate probability unsurveyed
15	65N4W26	SESW	40	High probability unsurveyed
14	65N4W26	SNESW	40	High probability unsurveyed
35	61N2E9	NENE	40	Moderate probability unsurveyed

Table 3.3-3: Previous heritage resource survey coverage in the Cook County Land Exchange project area

<b>CRRR #</b>	<b>Date</b>	<b>Title</b>	<b>Undertaking</b>	<b>Type</b>	<b>Acreage</b>
8902002	1989	Margaritaville Timber Sale	Timber Sale	Block	40
9602001	1996	Northern Pines EA Project	Timber Sale	Block	
8302026	1983	Bogus Lake Power Line Right-of-Way	Power line ROW	W/ST	2
8702006	1987	Nature Conservancy County 14 Land Exchange	Land Exchange	Block	40
8402012	1984	Compartment 194 Ranger Sales	Timber Sale	Block	
8702017	1987	Mink Lake Road	Road Reconstruction	Block	
8602005	1986	403 Timber Sale	Timber Sale	Block	160
8902012	1989	Benson Lake Timber Sale	Timber Sale	Block	
8302025	1983	Gunflint District Site Prep Areas	Vegetation Mgmt	Block	
8402010	1984	Compartment 199 Ranger Sale	Timber Sale	Block	

8502002	1985	Gunflint Site Preps #4 & #5	Timber Sale	Block	60
0102005	2001	Gunflint/Tofte Thinning - Map 6	Timber Sale	Block	160
8102015	1981	Linnell II Timber Sale	Timber Sale	W/ST	75
9502004	1995	1995 Gunflint Survey Projects, Projects 27, 28, & 29	Vegetation Mgmt	Block	10
8302010	1983	Elbow Timber Sale	Timber Sale	Block	40
8302010	1983	Elbow Timber Sale	Timber Sale	W/ST	
1202007	2012	Pine Mt Lookout	Special Use	W/ST	10
9202017	1992	Squint Timber Sale	Timber Sale	Block	40
9202017	1992	Squint Timber Sale	Timber Sale	Block	40
9702001	1997	Upper Gunflint EA	Vegetation Mgmt	Block	40
0002004	2000	Gunflint Snowmobile Trails	Trails	W/ST	10
8402015	1984	Compartment 11 & 12 Ranger Sales	Timber Sale	Block	50
9702001	1997	Upper Gunflint EA	Vegetation Mgmt	Block	
0702004	2007	Ham Lake Fire	Fire	W/ST	

8407026	1984	Compartiment 73 Natural Regeneration, Honey Pot and Honeymoon Creek Sales	Timber Sale	Block	40
8507005	1985	Campsite Rehabilitation Assessment on Kawishiwi, Squares, Baskatong, Kawasachong , Polly, Koma, & Malberg Lakes & portions of the Kawishiwi River	Campsite Rehab	Block	
8307021	1983	Firewood Sales Areas	Timber Sale	Block	80
0207009	2002	Sawtooth Timber Opportunity Area	Timber Sale	Block	
8107014	1981	Wildlife Forage/Cover Projects	Wildlife Habitat	W/ST	
0207009	2002	Sawtooth Timber Opportunity Area	Timber Sale	Block	20
8502014	1985	Devils Track Sale	Timber Sale	Block	40
8602002	1986	Maple Hill Fire Hall Site	Construction of Hall	W/ST	0.5
8502014	1985	Devils Track Sale	Timber Sale	Block	50
0602003	2006	Devil Trout EA	Vegetation Mgmt	W/ST	
1007008	2010	GLRI Logging Dam survey	GLRI	W/ST	60

## **Environmental Consequences**

### **3.3.4 Direct and Indirect Effects**

Further investigation of parcels containing unevaluated heritage sites and parcels identified for additional survey needs to be conducted prior to implementation. If the investigation determines that any of the resources are eligible for consideration and/or protection under federal laws, then appropriate mitigation would need to be developed to protect them from effects from future possible development. With regards to the three unevaluated sites located in the project area, and any new sites located during survey of the aforementioned parcels, the Forest fully intends to follow the review and consultation process set for Section 106 (36CFR800) of the National Historic Preservation Act (as amended). The results of the survey will be included in Cultural Resource Management Report #1302003, which will be included in the Cook County LE project file.

The non-federal land has not been surveyed. Because some of the land to be acquired is located along shorelines and water travel corridors, there is high probability for heritage sites. Alternative 2 would offer protection to these potential sites that would not be in place under Alternative 1, as these parcels are not currently afforded heritage resource protections available under federal laws.

There would be no adverse effect to heritage resources under Alternative 1. Under Alternative 2, any potential effects would be mitigated under 36CFR800, which includes processes for consultation, effects review, and the development of mitigation measures for eligible heritage resource sites located within proposed outgoing federal parcels. While mitigations are not currently anticipated, it is important to note that mitigations could include data recovery, deed restrictions removing a portion of the parcel from future development, or withholding a certain parcel, or portion of a parcel, from exchange out of federal ownership.

### **3.3.5 Cumulative Effects**

There are several reasonably foreseeable land exchanges on Forest Lands that have the potential to affect heritage resources. These undertakings include the Northmet Land Exchange and the Crane Lake Land Exchange. While these land exchanges may lead to the loss of heritage resource sites, new heritage resource sites will likely be discovered on parcels acquired during exchange. While these proposed land exchanges have the potential to adversely affect heritage resources through the loss of federal protection and potential future development, these effects are mitigated through the Section 106 process, which calls for consultation, evaluation and, when appropriate, mitigation for those sites considered eligible for listing on the National Register of Historic Places. These effects are also tempered by the discovery of new sites on Forest Lands, the vast majority of which are protected from development. The Forest has identified over 4000 heritage resources sites over the past thirty years. Approximately 80% of these sites are currently classified as unevaluated or eligible, and offered full consideration under the National Historic Preservation Act. The National Historic Preservation Act directs the federal agencies to identify, evaluate, and nominate heritage resource sites to the National Register of Historic Places, and to consider the effects of undertakings on heritage resources. This process of identification and evaluation creates a dynamic situation with regard to the status of heritage resource sites at a given point in time. In order to comply with 36CFR800 and other Forest directives regarding heritage resources, the Forest completes approximately 50-70 heritage

resource surveys annually, most of which are tied to undertaking such as timber sales, engineering projects, special use permits, and mineral proposals. In addition, and as directed by Section 110 of the NHPA, the Forest routinely conducts survey for the sole purpose of identifying heritage resource sites. Over the last 10 years, these surveys have resulted in the identification, on average, of approximately 42 new sites per annum. Given this, the Forest does not anticipate cumulative effects to heritage resources under Alternative 2.

### **3.3.6 Conclusion**

Under Alternative 2, potential adverse effect to heritage resources will be mitigated through the Section 106 process. Under Alternative 1, there would be no effects to heritage resources.

### **3.4 Mineral Materials**

#### **3.4.1 Introduction**

All saleable material from gravel pits are referred to collectively as mineral materials. They encompass common varieties of sand, gravel and rock. Mineral materials are considered part of the surface estate, therefore the surface owner has the right to develop the materials without any legal interest in the mineral estate. Aggregate from gravel pits produce materials that are used in road construction and maintenance; trail construction and maintenance; site development for both public and private facilities. There is demand for materials from existing pits in the project area as well as a need to identify and develop new sources. Most of the demand is for relatively small volumes of material for construction, reconstruction and maintenance of roads and trails. There is also some demand for construction projects such as highway reconstruction and for the development of private land: septic systems and driveways.

The 2004 Superior National Forest Land and Resource Management Plan desired condition and standards and guidelines for minerals are as follows:

D-MN-1: Exploration and development of mineral and mineral material resources is allowed on National Forest System land, except for federally owned minerals in designated wilderness (BWCAW) and Mining Protection Area (MPA). *(SNF Forest Plan, page 2-9)*

D-MN-2: Ensure that exploring, developing, and producing mineral material resources are conducted in an environmentally sound manner so that they may contribute to economic growth and national defense. *(SNF Forest Plan, page 2-9)*

S-MN-1: The removal of more than 5,000 cubic yards of mineral materials per year from any one source requires an approved development and reclamation plan. *(SNF Forest Plan, page 2-9)*

#### **3.4.2 Analysis Methods**

Indicator: Amount of mineral materials available for Forest Service use.

#### **3.4.3 Analysis Parameters**

The analysis area for this resource includes the areas of glacial deposition within the Rainy and Superior Lobes of the Laurentide Ice sheet across the Gunflint Ranger District. This area encompasses the amount of mineral materials available for development and what effect the proposed action and alternative action have on this resource.



Table 3.4-1 summarizes the mineral material resources available on federal lands (six sources) to be conveyed to Cook County under Alternative 2 (Van Alstine 2012).

<b>Parcel ID</b>	<b>TWP</b>	<b>Range</b>	<b>Section</b>	<b>Description</b>	<b>Map Number</b>	<b>Mineral Material Resources*</b>
1-PD	63N	1E	33	NWSE	F6	No substantial resource
2	65N	3W	30	SWSE	F8	No substantial resource
3	62N	2E	12	NWSW	F2	No substantial resource
4	61N	4W	34	NWSW	F9	No substantial resource
5	64N	1W	10	NWSW	F7	No substantial resource
6	64N	1W	9	NESE	F7	
7	62N	1W	21	NWSE	F5	Approximately 2,300,000 yd <sup>3</sup>
8	62N	1W	21	NESE	F5	
9	62N	1W	21	SWNE	F5	
10	62N	1W	21	SENE	F5	
11	62N	1E	30	SESE	F4	Approximately 60,000 yd <sup>3</sup>
12	59N	4W	29	SWNE	F10	No substantial resource
13	59N	4W	29	NWSE	F10	
14	65N	4W	26	NESW	F8	Approximately 750,000 yd <sup>3</sup>
15	65N	4W	26	SESW	F8	
16	62N	1W	15	SWSW	F5	Approximately 250,000 yd <sup>3</sup>
17	62N	1W	15	SESW	F5	
18	62N	1E	24	NWSE	F4	No substantial resource
19	62N	1E	24	NWSW	F4	
20	62N	1E	24	SESW	F4	
21	62N	1E	24	NENE	F4	

22	62N	1E	24	NWNE	F4	
23	62N	1E	24	NESW	F4	
24	62N	1E	24	NENW	F4	
25	62N	1E	24	SWNE	F4	
26	62N	1E	24	NWNW	F4	
27	62N	1E	24	SWNW	F4	
28	62N	2E	24	NWSW	F2	Approximately 350,000 yd <sup>3</sup>
29	64N	3E	4	G.L. 15	F1	No substantial resource
30	60N	3W	24	SWSW	F11	No substantial resource
31	60N	3W	23	SWSE	F11	
32	60N	3W	23	SESE	F11	
33	62N	1E	31	G.L. 3	F4	Approximately 400,000 yd <sup>3</sup>
34	62N	1E	31	NENW	F4	
35	61N	2E	9	NENE	F3	No substantial resource
36	61N	2E	9	NWNE	F3	
37	61N	2E	9	SENE	F3	
38	61N	2E	9	SWNE	F3	
39	62N	1E	31	NWNE	F4	See ID 33-34
40	65N	4W	26	SWNW	F8	See ID 14-15

\*Volume of mineral materials available is estimated assuming a given depth to bedrock. Actual volumes may vary.

### 3.4.4 Affected Environment

The mineral material deposits in the project area are the result of glacial activity from the Rainy and Superior Lobes of the Laurentide Ice sheet that advanced over the area during the middle Wisconsin Age (approximately 75,000 to 10,000 years ago). The materials are located within various types of glacial deposits including ground and end moraines, eskers, and outwash fans which are typical locations for the extraction of mineral materials. These deposits generally

contain large volumes of gravel of varying qualities suitable for road construction and crushing materials.

## **Environmental Consequences**

### **3.4.5 Direct and Indirect Effects**

#### **Alternative 1 (No-action)**

Under the Alternative 1, the parcels identified in the proposed action would remain in their present state of ownership and management. Mineral material resources located within identified lands under county ownership within the BWCAW would not be developed. Any such development within the BWCAW is possible, but access would be restricted by the BWCAW Act. Section 11(a)(3) of the Act does not give authority to any agency or the United States to permit, lease, or authorize use of United States lands in relation to mining of or exploration of minerals in areas that would impair qualities of the wilderness area and mining protection area. The Forest Plan (p. 3-61) also restricts the occupancy and use of federal property that are limited to activities which do not preclude protection of wilderness values and navigable waters.

Mineral material resources located within federal parcels (shown in Table 3.4-1) would likely be developed and utilized at some point in the future. Development of new material sources is on an as-needed basis. Therefore it is difficult to predict when and where a new source would be developed. Issues considered when identifying and developing a new mineral material source on the Superior National Forest include: location of source and haul distance relative to need or intended use; quantity and quality of material available in existing sources versus new source; administrative needs versus sale of material. Consideration of these factors along with impacts to resources help guide proposed development. Because there would be impact to the surface and to other resources, development of a new mineral material source would be analyzed under NEPA to determine what impacts exist and if so, to what extent.

Once a new source has been approved for development, Forest Plan standards and guidelines and mineral material policy (FSM 2850 found in project file) dictate how that source is utilized. FSM 2850 has many requirements in place to protect or mitigate impacts to other resources. These include but not limited to: creation of a gravel pit management plan, requirement for approved operating plans, reclamation (performance) bonding, and resource specific stipulations and mitigation requirements.

Alternative 1 would result in roughly 4.1million cyd<sup>3</sup> of material in six source areas remaining in Forest Service ownership, making it available for potential future development, use, or sale.

#### **Alternative 2**

Under the proposed action, since the Wilderness Act restricts development of mineral materials within the BWCA, no change from existing condition would occur to County lands acquired within the BWCAW.

Under Alternative 2, Cook County would gain ownership of the proposed federal lands through an exchange, thereby making the mineral materials within those parcels unavailable for

development, use and/or sale by the Forest Service, but possibly by Cook County for development, use and/or sale.

Currently the Gunflint Ranger district has approximately 70 developed mineral material sources across the district and numerous areas of potential development. The loss of six sources available for potential future development by the Forest Service is negligible due the vast amount of usable material within the Rainy and Superior Lobe deposits across the Gunflint Ranger District. The six potential sources are known locations and have yet to be developed. Their lack of development by the Forest Service demonstrates there is not additional demand for this material.

Management by Cook County of the six potential gravel sources, if developed, would have similar standards and guidelines to Forest Service management of the resource. Cook County would require gravel pit development to conform to the county Land Use Plan. Operations within a pit are also subject to a Conditional Use Permit approved by the County Board of Commissioners. The permit sets forth terms and conditions of operations to protect resources and mitigate impacts similar to Forest Service policy found in FSM 2850. As a result of the County's planning and permitting requirements for gravel pit development and operation, the effects of County management of new mineral material sources on the identified federal parcels would be similar to Forest Service management, therefore negligible.

#### **3.4.6 Conclusion**

Considering the vast quantity of gravel material available within the Rainy and Superior Lobe glacial deposits across the Gunflint Ranger District, the loss of available mineral materials contained within the identified federal lands would be negligible.

Management of gravel pits by Cook County is very similar in scope to Forest Service management of mineral material sources and therefore the effects of this change in management would also be negligible. The management of land within the BWCAW for gravel would not change, regardless of ownership, and would therefore have no effect.

### **3.5 Water Resources**

#### **3.5.1 Introduction**

Both federal parcels and non-federal parcels have similar water resources. The non-federal parcels have almost twice as much wetland acres than federal parcels. Development potential near water resources is minimal on conveyed lands, and management on received lands is not proposed to change since it will continue to be managed within the Boundary Waters Canoe Area Wilderness.

#### **3.5.2 Analysis Methods**

Project proposal locations were checked against wetland as well as aquatic habitat types using geographical information system mapping. The National Wetland Inventory (NWI; Circular 39 data set; Shaw and Fredine 1956), aerial photos, and USFS data for lakes and streams were among the data sets used for planning and analysis. Wetland and aquatic habitat groups were used to help evaluate the potential effects of management activities on water resources. Aquatic organisms were also grouped by similar habitat groups to reduce the amount of repetition in the analysis. For analysis of aquatic wildlife, refer to the summary in Section 3.7.2 or the Biological Evaluation for this Environmental Assessment (Appendix G).

Two indicators related to water quality and watershed health are analyzed for effects of two alternatives associated with the Cook County Land Exchange. These indicators help measure the potential direct, indirect, and cumulative effects to water quality and watershed health at both the site-specific and watershed-scale.

##### Indicator 1: Acres of Wetland Received and Conveyed

Indicator 1 assesses the amount (acres) and type (NWI Circular 39 classification) of wetlands both received and conveyed in the proposed exchange.

##### Indicator 2: Number of Dwellings per mile of Shoreland

Indicator 2 assesses the development potential of parcels in the exchange that are near shoreland environments by estimating the number of dwellings that would contribute to a lakes shoreland development class as per the State of Minnesota Shoreland Development Standards (MNDNR, 1976; State of Minnesota, 2013) and Cook County Shoreland Ordinances (Cook County, 2010). Shoreline development along lakes can impact riparian vegetation (Elias and Meyer, 2003), aesthetics (Stedman and Hammer, 2006), shallow water (littoral) vegetation (Radomski, 2001), water quality (Garrison and Wakeman, 2000) and substrate characteristics. This can have an effect on water resources including community composition, diversity, and/or abundance of fish (Bryan and Scarnecchia, 1992; Schindler et al., 2000), frogs (Woodford and Meyer, 2003), birds (Lindsay et al., 2002), and other species. This indicator measures current and potential development as it relates to the quality of water resources and analyzes the effects of the two alternatives associated with the Cook County Land Exchange Project. Indicator 2 measures the potential direct, indirect, and cumulative effects to the quality of water resources at the site specific scale including potential downstream effects to water resources both inside and outside the BWCAW.

### **3.5.3 Analysis Parameters**

#### **Indicator 1: Acres of Wetland Received and Conveyed**

For Indicator 1, the area considered in the analysis of direct and indirect effects to wetlands includes all of the National Forest lands and all of the Cook County lands proposed for exchange. This analysis area was selected because this is where the land exchange activities will occur which could potentially cause direct and indirect effects to wetland acreage ownership. This indicator evaluates wetland acres received and conveyed for this exchange for compliance with Executive Orders 11990 and 11988. Cumulative effects are not relevant for this indicator. Cumulative effects for water resources are evaluated with Indicator 2.

#### **Indicator 2: Number of Dwellings per mile of Shoreland**

For Indicator 2, the area considered in the analysis of direct and indirect effects to shorelands includes all of the National Forest lands and all of the Cook County lands proposed for exchange in addition to the entire shoreline of the body of water (lake) that the shoreland parcel is a part of. This analysis area was selected because shoreland development that occurs on exchanged parcels could potentially cause the direct and indirect effects to water resources on a whole-lake scale. The analysis of the entire shoreline of a lake is necessary to include for calculations of the shoreland dwelling density of the entire lake. The area covered by the cumulative effects analysis is the same as that for direct and indirect effects. This cumulative effects analysis area was chosen because the entire shoreline of potentially affected lakes also considers development from any other sources that might affect the lake.

The timeframe selected for the direct, indirect and cumulative effects for all indicators is 10 years because it is assumed that management subsequent to the proposal would be accomplished with 10 years. The majority of effects would take place once management or subsequent development occurs and would remain constant thereafter.

### **3.5.4 Affected Environment**

Both federal parcels and non-federal parcels have similar water resources; Both have some slow-moving open water habitat, both have lowland conifer swamp, both have non-forested wetlands, and both have adjacent lake and stream habitats. The non-federal parcels have almost twice as much wetland acres than federal parcels.

#### **Indicator 1: Acres of Wetland Received and Conveyed**

Wetland types are very similar on both federal and non-federal parcels and include Seasonally Flooded/Floodplain, wet meadow, shallow marsh and open water wetland. The overall existing condition of these wetlands, both inside and outside the BWCAW, are healthy and functioning parts of the landscape.

#### **Indicator 2: Number of Dwellings per mile of Shoreland**

Development of parcels located near lakes are required to meet State of Minnesota Shoreland Development Standards within each lake's Shoreland Management Lake Classification (State of Minnesota, 2013). Lakes in which there are proposed conveyed shoreland parcels include (with management classification in parentheses; Cook County, 2010a) Devil Track Lake (Recreational Development), Little John Lake (Natural Environment) and Bogus Lake (Natural Environment). Table 3.5-1 displays the shoreland lake classification and respective development densities used to classify lakes. Parcels located within the Boundary Waters Canoe Area Wilderness would remain un-developed, effectively maintaining water quality, ecological functions, and their respective lake classifications.

Table 3.5-1: Lake Classification Development Density Limits	
Lake Classification	Development Density (dwellings/mile of shoreland)
Natural Environment	Less than 3
Recreational Development	3 to 25
General Development	Greater than 25

## Environmental Consequences

### 3.5.5 Direct and Indirect Effects

#### Alternative 1 (No-action)

Under Alternative 1, it is likely the county land would remain as county land and that its current management as wilderness would continue (however, the possibility exists that Cook County could pursue managing these lands in a way that would result in substantial change). Very few management activities would be expected, and any that might occur would occur around campsites and portages and would involve routine maintenance of these recreational sites. Therefore, no impacts are expected to water resources under Alternative 1.

Under Alternative 1, the National Forest lands would continue to be managed under Forest Plan and since no management actions are proposed in Alternative 1, there would be no impacts to water resources.

Overall, both Indicator 1 (Acres of Wetland Received and Conveyed) and Indicator 2 (Number of Dwellings per mile of Shoreland) would show no change and there would be no impact to water resources under Alternative 1.

#### Alternative 2

Indicator 1: Acres of Wetland Received and Conveyed

If the exchange is consummated as outlined there would be net gain of wetlands and no disposal of floodplain acreage under Federal management. A net gain would occur across all Wetland Types with a total gain of 137.07 acres to the federal estate (Table 3.5-2).

Table 3.5-2: Acres of Wetland Proposed for Exchange			
Wetland Type	Cook County Acres	National Forest Acres	Net Gain (+) or Loss (-) to Federal Estate
Seasonally Flooded or Floodplain	37.43	7.29	+30.15
Wet Meadow	40.09	32.51	+7.58
Shallow Marsh	197.42	124.70	+72.73
Open Water	30.64	4.03	+26.61
<b>TOTAL</b>	<b>305.59</b>	<b>168.52</b>	<b>+137.07</b>

a) Wetland Acreage/Executive Order 11990

Executive Order (E.O.) 11990 requires that the exchange preserve wetland functions with no net loss to the Federal estate. There would be a net wetland acreage gain of approximately 137 acres to the federal estate. Federal land includes approximately 168 acres of wetland. Nonfederal land includes approximately 305 acres of wetland.

b) Floodplain Management/Executive Order 11988

E.O. 11988 requires that the exchange not increase flood hazards to the non-Federal estate. There is no federally-designated flood hazard areas on the federal lands proposed for exchange. There are no FEMA issued regulatory floodplain maps for Cook County, Minnesota. There are three conditions that would satisfy the requirements of E.O 11990 and E.O. 11988:

1. Value of the wetlands or floodplains for properties received and conveyed is equal (balancing test) and the land exchange is in the public interest.
2. Reservations or restrictions are retained on the unbalanced portion of the wetlands and floodplains on the Federal lands when the land exchange is in the public interest but does not meet the balancing test.
3. The Federal property is removed from the exchange proposal when the condition described in the preceding paragraphs 1 or 2 cannot be met.

In the proposed action, condition 1 is met, so there is no need to apply conditions 2 and 3. The proposed use of the federal parcels varies by location but may include construction of towers and fire halls, recreation, development, gravel resources, septage disposal, etc. These activities would be managed according to Cook County Zoning Ordinances (Cook County Planning and Zoning) as well as subject to regulatory controls for shoreland areas and wetlands including MN Protected Waters permitting (Minnesota Department of Natural Resources), the MN Wetland



Conservation Act (Minnesota Board of Water and Soil Resources; BWSR), and the Section 404 of the Federal Clean Water Act (US Army Corps of Engineers).

Indicator 2: Number of Dwellings per mile of Shoreland

Development of parcels located near lakes are required to meet State of Minnesota Shoreland Development Standards within each lake's Shoreland Management Lake Classification. Lakes in which there are proposed conveyed shoreland parcels include (with management classification in parentheses) Devil Track Lake and McFarland Lake (Recreational Development), Little John Lake (Natural Environment) and Bogus Lake (Natural Environment).

Alternative 2 could include the eventual development of shoreland dwellings on Little John Lake, McFarland Lake, and Devil Track Lake (Bogus Lake is assumed to not be developable based on the parcel, proposed county management, and the existing radio tower). Based upon the interpretation of aerial photos there are presently no (zero) shoreland dwellings on Little John Lake. The potential addition of 4 dwellings would increase the dwellings per mile of shoreline from 0 (no-action) to 2.4 dwellings/mile of shoreland (based 960 feet of exchanged shoreline; minimum 200 foot lot width; and 1.7 miles of total shoreline). This would not exceed the development density of Little John Lake under the current Lake Classification of Natural Environment. This potential development is unlikely to have an effect on the water resources of Little John Lake, John Lake, or the BWCAW.

Devil Track Lake and McFarland Lake both have numerous shoreland dwellings (approximately 225 and 70, respectively) and are very large lakes (13.9 and 7.19 miles of shoreland, respectively) with potential development of only several new shoreland dwellings on each lake based on shoreland parcel size. This potential addition to dwelling density would not exceed the 25 shoreland dwellings/mile of shoreland under the Recreational Development Classification. Therefore, all developable lakeshore within the exchanged parcels, if developed, would not change the Shoreland Management Lake Classification based on dwelling density. There would be no measurable impact to water resources, either inside or outside the BWCAW, based on development density.

### **3.5.6 Cumulative Effects**

The list of potential cumulative actions was reviewed and those actions that may affect water resources were considered in this analysis. Potential future development activity on other private or non-federal parcels are mitigated by the County's implementation of the Shoreland Ordinance and existing State and Federal regulations. Overall, these activities have or are estimated to potentially have minimal effects on water resources.

### **3.5.7 Conclusion**

For alternative 1, the no-action alternative, there would be no effect to water resources since management of parcels would remain the same.

For alternative 2, there would be no measurable impacts to water resources by the possible development on shoreland parcels due to the small scale of activity and application of regulations

and thresholds on development. There would be a net gain of wetland acres to the federal estate. Overall, there is minimal or no effect on the water resources of the Superior National Forest related to the ownership transfer of these lands.

## 3.6 Threatened and Endangered Species – Canada Lynx

### 3.6.1 Introduction

This section summarizes the findings of the Cook County Land Exchange Project Biological Assessment (BA). The BA documents the potential effects on federally proposed, candidate, threatened or endangered species and designated critical habitat that could result from Alternative 2 of the proposed land exchange project and associated activities as documented in the Cook County Land Exchange EA.

#### Alternative 1 (No-action)

Alternative 1 would have *no effects* on Canada lynx or its critical habitat.

#### Alternative 2

The analysis for Alternative 2 in the Biological Assessment determined that for

- Direct Effects:
  - *No effect* to lynx or critical habitat is expected from the land exchange alone.
- Indirect Effects:
  - Activities *may effect, but are not likely to adversely affect lynx.*
  - Activities *may effect, but are not likely to adversely modify lynx habitat.*
- Cumulative Effects:
  - Activities of the proposed action of land exchange *may affect but are not likely to adversely affect lynx or adversely modify lynx critical habitat.*

The BA was submitted to the U.S. Fish and Wildlife Service (USFWS) in March 2013 for their review. Consultation with the USFWS specific to the land exchange was completed with receipt on July 25, 2013 of their letter concurring with our determinations. All communications with the USFWS are documented in the Project File. The complete BA is available in Appendix H. Appendix H also includes a Supplement evaluating the Northern Long Eared Bat since that species was proposed for federal listing on October 2, 2013.

### 3.6.2 Analysis Methods

Canada lynx are the only federally listed species on the Superior National Forest<sup>11</sup>. Analysis methods meet Forest Plan objectives, standards, and guidelines developed under the Lynx Conservation Assessment and Strategy by using the parameters listed below. Analysis methods include using lynx location data from tracking and DNA collection projects and mapping lynx denning and connectivity habitat, and snowshoe hare foraging habitat. Habitat changes were estimated from conferences with the interdisciplinary team and the local Forest Service engineer and by using air photo interpretation. Lynx sightings or tracks have been seen in many areas of Cook County and lynx presence is assumed throughout the project area.

The analysis area for direct and indirect effects includes Lynx Analysis Units (LAU) 23, 38-40, 42, 44, and Critical Habitat Area (CHA) 2. CHA 2 occupies the area along Lake Superior from the lake shore to about 4 miles inland. It runs from the southern edge of the Superior National Forest near Tofte, MN to the east edge of the Superior National Forest seven miles west of Hovland, MN. Cumulative effects consider all ownerships within the Direct/Indirect Effects

<sup>11</sup> The Northern Long Eared Bat was proposed for federal listing in the Federal Register on October 2, 2013. The Supplement to the Biological Assessment (see Appendix H) evaluates this species.

Area. This is an appropriate area because less than 1,200 acres and less than two percent of any LAU or CHA2 are impacted by activities proposed in the project. The reasonably foreseeable timeframe for this analysis of this project is ten years. The Superior National Forest Land Management Plan was adopted in 2004 and will be used for 10 to 15 years.

### 3.6.3 Analysis Parameters

On February 24, 2009, the Fish and Wildlife Service revised the Canada lynx critical habitat designation to include all of the Superior National Forest (and other lands in Northeastern Minnesota) as critical habitat (USDI FWS 2009b). Lynx analysis indicators serve as appropriate indicators for analysis of effects to proposed critical habitat and its constituent elements. This is because the indicators address relevant Primary Constituent Elements of lynx habitat - those physical and biological features that are essential to the conservation of the species. Table 3.6-1 below crosswalks the lynx indicators to the Primary Constituent Elements (PCE).

Critical habitat for lynx is defined as boreal forest landscapes supporting a mosaic of differing successional forest stages and containing the following PCE (see Table 3.6-1):

- a) Presence of snowshoe hares and their preferred habitat conditions, including dense understories of young trees or shrubs tall enough to protrude above the snow;
- b) Winter snow conditions that are generally deep and fluffy for extended periods of time;
- c) Sites for denning having abundant coarse, woody debris, such as downed trees and root wads; and
- d) Matrix habitat (e.g., hardwood forest, dry forest, non-forest, or other habitat types that do not support snowshoe hares) that occurs between patches of boreal forest in close juxtaposition (at the scale of a lynx home range) such that lynx are likely to travel through such habitat while accessing patches of boreal forest within a home range. The important aspect of matrix habitat for lynx is that these habitats retain the ability to allow unimpeded movement of lynx through them as lynx travel between patches of boreal forest.

Since analyses for effects are largely habitat based, the same analysis indicators are appropriate for analysis effects of lynx critical habitat (FWS 2011 BO, page 47).

*Table 3.6-1. Analysis Indicators selection and rationale for exclusion: Canada Lynx*

Indicator	OSG*	PCE	Use?	Rationale for exclusion
1. Snowshoe hare habitat acres.	G-WL-3	a	Y	
2. Percent of unsuitable habitat on NFS land (15% standard).	S-WL-1	a, b, c, d	Y	

3. Denning habitat in patches > 5 acres.	G-WL-4	c	Y	
4. Percent of lynx habitat in LAUs with adequate canopy cover- upland forest > 4 years old and lowland forest > 9 years old (Connectivity habitat).	S-WL-1	a, c, d	Y	
5. Miles of ATV trails allowed.	O-RMV-1	b	N	This project proposes no increases in road or trail miles. Existing roads and trails would remain open. There are no known plans to develop trails or roads as a direct result of this alternative. Driveways may be developed but the lengths are speculative at this time, included in the affected acreage analyzed, and most parcels are on or adjacent to existing roads resulting in no new access roads.
6. Miles of snowmobile trails allowed.	O-RMV-1	b	N	
7. Miles of temp and OML 1&2 roads.	O-WL-7 S-WL-2	b	N	
8. Policy on cross-country use of ATVs and snowmobiles.	S-RMV-3	b	N	This project proposes no NFS change to policy on cross-country use of ATVs and snowmobiles. Lands exchanged to Cook County may fall under potentially different trail policy than that applied on NFS lands. Though it is possible that policy differences between government agencies could lead to different results and effects, I am discounting these effects since they are speculative when applied to specific parcels since there are no known plans to develop trails.
9. Policy on use of ATVs and snowmobiles on OML 1&2 roads.	G-RMV-3	b	N	
10. Acres of snowshoe hare habitat in which within stand structure will be increased through diversity and under-planting of conifer on SNF lands.	O-WL-9	a	N	No planting is proposed in this project.

11. Acres and % of lynx habitat currently unsuitable on all ownerships in an LAU (30% guideline).	G-WL-3	a, c, d	Y	
12. Road and compacted trail density on all ownership.	G-WL-8	b	N	Density will not change as a result of this project. Existing snowmobile trails on federal parcels listed for exchange are expected to remain the same because they are major connecting trails that cross different ownerships.
14. Connectivity	D-WL-3h O-WL-7 O-WL-11 O-WL-12 O-WL-4	b, d	N	Connectivity analysis is covered by Indicator 4 (Forest Plan BA, 2004, page 125).
* OSG refers to objectives, standards, and guidelines in the Forest Plan.				

### 3.6.4 Affected Environment

#### Alternative 1 (No-action)

Alternative 1 is represented by the existing condition in the following analysis.

#### Alternative 2

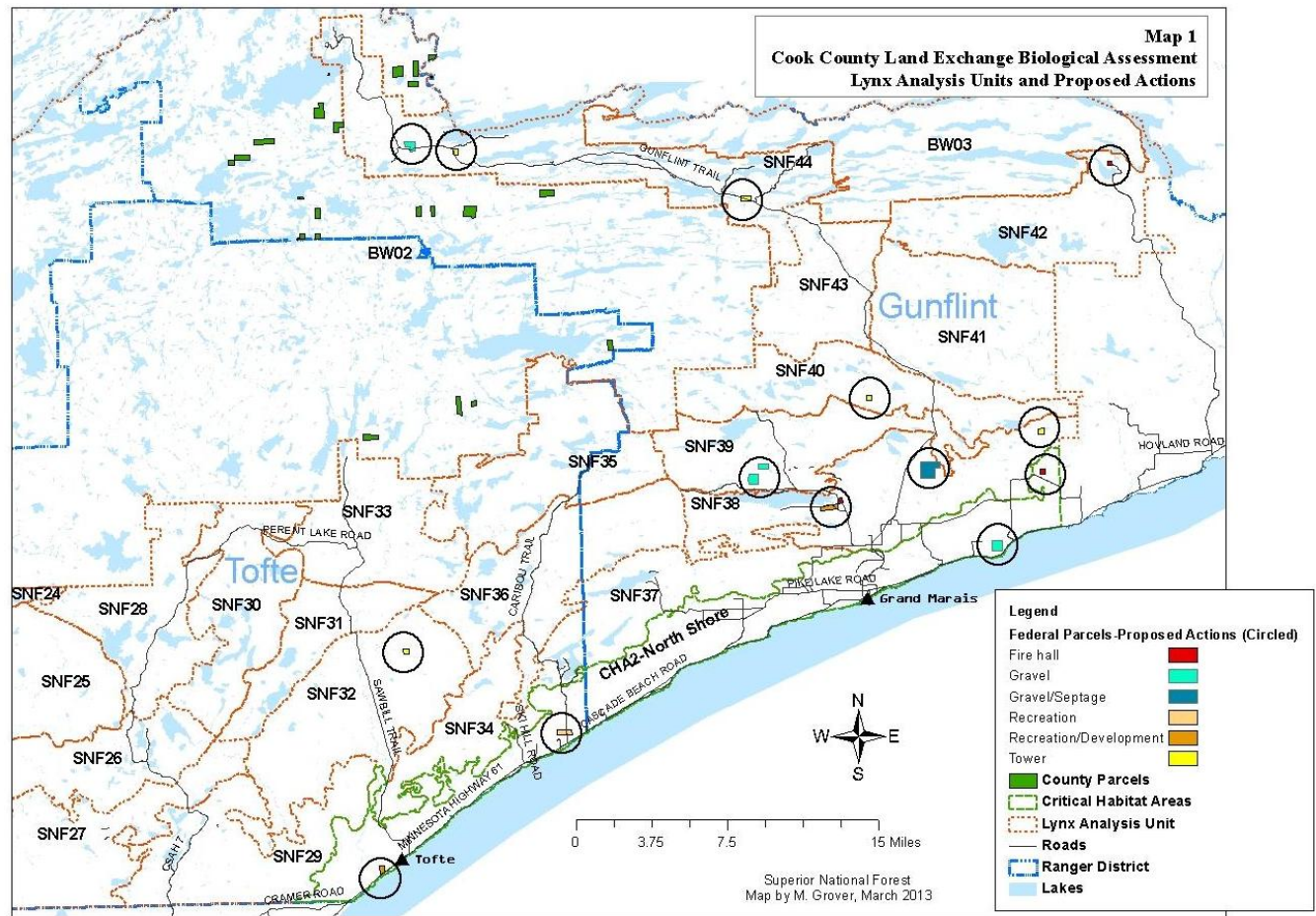
The Cook County parcels are located in the Boundary Waters Canoe Area Wilderness (BWCAW). All Cook County parcels in the BWCAW transferred to federal ownership will be managed according to the Forest Plan and the BWCAW plan with no change from current management as a result of this land exchange. There will be no effects to Canada lynx or their respective critical habitat components because the alternatives would not differ from the existing condition and habitat would be maintained in Alternative 2, therefore no further analysis will be conducted on Cook County's BWCAW parcels.

The federal acreage for which lynx habitat would be removed is listed in Table 3.6-2. Parcels outside Lynx Analysis Units are in lynx critical habitat and reside in Critical Habitat Area 2, as defined in the 2011 programmatic biological evaluation (USFS 2011). See Map 1 for the location of the affected LAUs and Critical Habitat Area 2 (CHA2).

*Table 3.6-2. Overview of Species' Affected Environment: Lynx*

<b>LAU</b>	<b>General Location</b>	<b>Total Acres</b>	<b>NFS Land Acres</b>	<b>Alternative 2 Acres</b>	<b>% of LAU in Project Area</b>
CHA2	T59N, R4W; T60N, R3W; T62N, R2E; T61N, R2E;	63,247	32,670	294	0.5%
SNF32	T61N, R4W	41,632	38,745	0	0.0%
SNF38	T62N, R1E; T62N, R2E;	38,246	25,496	450	1.2%
SNF39	T62N, R1W	26,542	16,915	280	1.1%
SNF40	T63N, R1E	27,726	23,779	5	0.0%
SNF42	T64N, R3E	28,345	19,991	40	0.1%
SNF44	T65N, R3W; T65N, R4W; T64N, R1W	47,296	34,278	125	0.3%
Total	--	--	--	<b>1,194</b>	--
<i>Data source: LAU data from WildlifeDataAnalysis.xlsx, Tab Lynx30% unsuitable. CHA2 data from 2011 Forest Plan BA.</i>					

Map 1. Location of the affected LAUs and Critical Habitat Area 2 (CHA2).



## Environmental Consequences

### 3.6.5 Direct and Indirect Effects

#### Indicator 1. Snowshoe hare habitat acres

Snowshoe hare habitat would remain above 50 percent in all analysis areas.

Table 3.6-3. Indicator 1: Snowshoe Hare Habitat on National Forest Lands in the Project Area.

Lynx Analysis Units*	Lynx Habitat	Snowshoe Hare Habitat Existing Condition, Alternative 1		Snowshoe Hare Habitat Alternative 2	
	Acres	Acres	Percent	Acres	Percent
SNF32	38,743	19,404	50.1	19,404	50.1
SNF38	25368,	14,195	56.0	13,745	54.2



*Table 3.6-3. Indicator 1: Snowshoe Hare Habitat on National Forest Lands in the Project Area.*

Lynx Analysis Units*	Lynx Habitat	Snowshoe Hare Habitat Existing Condition, Alternative 1		Snowshoe Hare Habitat Alternative 2	
	Acres	Acres	Percent	Acres	Percent
SNF39	16,874	11,118	65.9	10,838	64.2
SNF40	23,346	16,252	69.6	16,247	69.6
SNF42	19,609	12,982	66.2	12,942	66.0
SNF44	34,201	26,875	78.6	26,750	78.2

*Data source:* 2012 Forest-wide lynx habitat analysis: ext\_forage\_anyr2012\_110912.xlsl.

\*This indicator applies only to LAUs, it does not apply to CHAs or critical habitat areas outside of LAUs.

#### Indicator 2. Cumulative change to unsuitable habitat condition on NFS lands

Cumulative change to unsuitable habitat in ten years would remain at or below 13.1 percent on NFS lands.

*Table 3.6-4. Indicator 2: Cumulative change to unsuitable (lynx) habitat condition in 10 years on NFS lands.*

LAU	Existing Condition, Alt. 1		Alternative 2	
	Acres	Percent	Acres	Percent
CHA2	33	0.1	294	1.0
SNF32	2,108	5.4	0	5.4
SNF38	2,609	10.3	450	12.1
SNF39	1,936	11.5	280	13.1
SNF40	2,001	8.6	5	8.6
SNF42	8	0.0	40	0.2
SNF44*	5,626	16.4	125	16.8

*Table 3.6-4. Indicator 2: Cumulative change to unsuitable (lynx) habitat condition in 10 years on NFS lands.*

LAU	Existing Condition, Alt. 1		Alternative 2	
	Acres	Percent	Acres	Percent
<p><i>Data source:</i> LAU Data is from 2012 Forest-wide lynx habitat analysis: ext_15pct_anyr2012_110912.dbf. CHA data is from 2011 Forest BA data file: cha_15pct_anyr2010.xlsx.</p> <p>*LAU 44 is exempt from the 15% change condition and is shown for informational purposes only.</p>				

**Indicator 3.** Denning habitat in patches generally greater than 5 acre patches, comprising at least 10% of lynx habitat

Denning habitat in patches of 5 acres or more would be present on 29 to 50 percent of federal lands in the analyzed areas.

*Table 3.6-5. Indicator 3: Denning Habitat in patches > 5 acres on National Forest Lands in the Project Area*

Lynx Analysis Units	Existing Condition, Alternative 1			Alternative 2	
	Forested Lynx Habitat	Denning habitat in patches > 5 acres		Denning habitat in patches > 5 acres	
	Acres	Acres	Percent	Acres	Percent
CHA2	31,376	16,273	51.8	15,979	50.9
SNF32	35,882	15,260	42.5	15,260	42.5
SNF38	23,207	10,568	45.5	10,118	43.6
SNF39	15,007	6,322	42.1	6,042	40.3
SNF40	21,658	11,736	54.2	11,731	54.2
SNF42	18,460	9,884	53.5	9,844	53.3
SNF44	29,448	8,760	29.7	8,635	29.3
<p><i>Data source:</i> LAU Data is from 2012 Forest-wide lynx habitat analysis:</p>					

*Table 3.6-5. Indicator 3: Denning Habitat in patches > 5 acres on National Forest Lands in the Project Area*

Lynx Analysis Units	Existing Condition, Alternative 1			Alternative 2	
	Forested Lynx Habitat	Denning habitat in patches > 5 acres		Denning habitat in patches > 5 acres	
	Acres	Acres	Percent	Acres	Percent
ext_denning_anyr2012_110912.dbf. CHA data is from 2011 Forest BA data file: cha_denning_anyr2010.xlsx					

Indicator 4. Connectivity habitat.

Connectivity habitat would be present on 79 to 95 percent of lynx habitat in the analyzed areas.

*Table 3.6-6. Indicator 4: Connectivity Habitat. Percent of lynx habitat in LAUs with adequate canopy cover- upland forest > 4 years old and lowland forest > 9 years old*

Lynx Analysis Units	Existing Condition, Alternative 1			Alternative 2	
	Lynx Habitat	Total Connective Habitat		Total Connective Habitat	
	Acres	Acres	Percent	Acres	Percent
CHA2	32,628	31,357	96.1	31,063	95.2
SNF32	38,744	34,288	88.5	34,288	88.5
SNF38	25,368	20,741	81.8	20,291	80.0
SNF39	16,874	13,431	79.6	13,151	77.9
SNF40	23,346	19,986	85.6	19,981	85.6
SNF42	19,609	18,433	94.0	18,393	93.8
SNF44	34,201	26,131	76.4	26,006	76.0

*Data source:* LAU Data is from 2012 Forest-wide lynx habitat analysis:  
ext\_con\_hab\_anyr2012\_110912.dbf. CHA data is from 2011 Forest BA data file:  
cha\_con\_hab\_anyr2010.xlsx

### 3.6.6 Cumulative Effects

#### Indicator 11. Currently Unsuitable Lynx Habitat on all ownerships

Lynx habitat in an unsuitable condition on all ownerships is well below the 30% guideline at a range of 1.3 percent to 6.8 percent unsuitable.

<i>Table 3.6-7. Indicator 11: Lynx habitat in an unsuitable condition on all ownerships</i>					
<b>Lynx Analysis Units</b>	<b>Total Lynx Habitat on all ownerships (acres)</b>	<b>Currently Unsuitable On all ownerships</b>		<b>Alternative 2</b>	
		<b>Acres</b>	<b>Percent</b>	<b>Acres</b>	<b>Percent</b>
SNF32	41,592	543	1.3	0	1.3
SNF38	37,607	2,096	5.6	450	6.8
SNF39	26,170	1,451	5.5	280	6.6
SNF40	27,165	1,367	5.0	5	5.0
SNF42	27,775	534	1.9	40	2.1
SNF44	46,522	2,637	5.7	125	5.9
Data Source: 2012 Forest-wide lynx habitat analysis: Lynx30percent2012.xlsx					

### 3.6.7 Conclusion

#### **Alternative 1 (No-action)**

Existing conditions and Alternative 1 meet or exceed the level of habitat thought to assure adequate conditions for lynx. There would be no cumulative effects because there would be no direct or indirect effects.

#### **Alternative 2**

<i>Table 3.6-8. Determination of Effect of Alternative 2 on Lynx and Critical Habitat.</i>		
<b>Management Activity</b>	<b>Determination</b>	<b>Summary of Rationale</b>

Table 3.6-8. Determination of Effect of Alternative 2 on Lynx and Critical Habitat.

Management Activity	Determination	Summary of Rationale
Land Exchange  Direct Effects	Lynx: Alt 2: NE  Critical Habitat: Alt 2: NE	Land exchange will have no direct effects to lynx or critical habitat as it is a legal procedure. <i>No effect</i> to lynx or critical habitat is expected from the land exchange alone.
Land Exchange  Indirect Effects	Lynx: Alt 2: NLAA  Critical Habitat: Alt 2: NLAM	<p>Indirect effects of the land exchange would come from activities proposed by the county after the exchange takes place. The amount of habitat change in any analysis area is a small percentage and sufficient habitat is retained to meet Forest Plan objective, standards, and guidelines for protection of lynx and lynx habitat. Activities <i>may effect, but are not likely to adversely affect</i> lynx because</p> <ul style="list-style-type: none"> <li>• Snowshoe hare habitat would remain above 50 percent in all analysis areas.</li> <li>• Denning habitat in patches of 5 acres or more would be present on 29 to 50 percent of federal lands in the analyzed areas.</li> <li>• Lynx may move through the impacted areas but the parcels are generally small and may be avoided.</li> </ul> <p>Changes to critical habitat are within the parameters developed for the Forest Plan to meet lynx habitat needs. Activities <i>may effect, but are not likely to adversely modify</i> lynx habitat.</p>

Table 3.6-8. Determination of Effect of Alternative 2 on Lynx and Critical Habitat.

Table 3.6-8. *Determination of Effect of Alternative 2 on Lynx and Critical Habitat.*

Management Activity	Determination	Summary of Rationale
Land Exchange	Lynx: Alt 2: NLAA	Potential cumulative effects may occur after federal parcels are exchanged.
Cumulative Effects	Critical Habitat: Alt 2: NLAM	<p>All alternatives in the proposed action of land exchange <i>may affect but are not likely to adversely affect/modify the lynx/critical habitat</i> because:</p> <ul style="list-style-type: none"> <li>• All alternatives ensure that no more than 6.8% of habitat would be in unsuitable condition for lynx, well below the 30% unsuitable indicator level (G-WL-3).</li> <li>• Road and trail density would remain the same because no roads or trails are proposed in the land exchange activities.</li> <li>• Connectivity habitat would be present on 79 to 95 percent of lynx habitat in the analyzed areas.</li> <li>• Cumulative change to unsuitable habitat in ten years would remain at or below 13.1 percent on NFS lands.</li> </ul>
<p>NE = No effect</p> <p>NLAA = Not likely to adversely affect</p> <p>NLAM = Not likely to adversely modify</p>		

### 3.7 Threatened and Endangered Species – Northern Long-Eared Bat

#### 3.7.1 Introduction

On October 2, 2013, the USFWS published a public notification of their 12-month finding for the proposed listing of the northern long-eared bat (*Myotis septentrionalis*) as an endangered species throughout its entire range (Federal Register 2013). The proposed rule recommended that the northern long-eared bat be listed as an endangered species throughout its range although designation of critical habitat is not determinable at this time given a lack of information regarding the species' biological needs.

The Superior National Forest initiated an informal conference with the USFWS on the potential effects of the proposed land exchange to northern long-eared bats in November 2013. Correspondence with the USFWS is documented in the project file. Conference is a process of early interagency cooperation between the U.S. Forest Service (USFS) and USFWS regarding the likely impact of an action on proposed species such as the northern long-eared bat. This document fulfills USFS conference requirements found in 50 CFR 402.2 and 50 CFR 402.10. The conference is designed to assist Federal agencies in identifying and resolving potential conflicts at an early stage in the planning process.

The effects analysis documented in the northern long-eared bat supplement to the Biological Assessment (Appendix H) resulted in the following determination for the northern long-eared bat: *Not likely to jeopardize the continued existence of the proposed species.*

Full references for the citations used in this section of the Environmental Analysis for the Cook County Land Exchange as well as a detailed status assessment for this species can be found in the northern long-eared bat supplement to the Biological Assessment (Appendix H).

#### 3.7.2 Analysis Methods

Effects were analyzed within a 1-mile buffer surrounding and encompassing the parcels proposed for exchange to Cook County – an area that incorporated any known locations and habitats potentially impacted by the land exchange and subsequent land use. Cook County parcels acquired by the Forest Service in the land exchange were not considered in this analysis because no management changes would occur with changes in ownership. Direct and indirect effects considered effects on federally owned properties while the cumulative effects analysis area included all ownerships.

The analysis timeframe for direct, indirect, and cumulative effects is between years 2013 and 2020. This seven-year span is an appropriate timeframe because currently proposed vegetation management actions would occur within this period. In addition, all of the current acres of young age class would move out of that age class during this time. An analysis year of 2020 provides an estimate of vegetation management effects as well as natural forest succession following implementation.

#### 3.7.3 Analysis Indicators

<i>Table 3.7-1. Analysis Indicators for the Northern Long-Eared Bat</i>			
<b>Indicator</b>	<b>OSG*</b>	<b>Use</b>	<b>Rationale for Inclusion / Exclusion</b>
1. Acres of upland forest (MIH 1)	O-WL-4	Y	This indicator measures changes to the amount of available upland habitat.
2. Presence of known hibernacula	O-WL-6 G-WL-11	N	There are no known hibernacula in the project area.
3. Presence of known summer roost sites	O-WL-6 G-WL-11	N	There are no known summer roost sites in the project area.
* OSG refers to Forest Plan objectives, standards, and guidelines.			

### 3.7.4 Affected Environment

#### Alternative 1 (No-action)

The proposed land exchange would not occur under the No Action alternative. Mature upland forest habitat would continue to be managed under Forest Plan guidance. Forest plan guidance for reducing/eliminating adverse effects on threatened and endangered species (O-WL-6) and avoidance measures for known locations of sensitive species (G-WL-11) would protect known hibernacula and summer roosting locations and occupied roost sites found during project- and species- level monitoring. Furthermore, changes to mature upland habitat with roost potential resulting from forest management activities alone are not likely to have significant population-level effects.

#### Alternative 2

Based on the land use assumptions provided by Cook County, existing conditions, and predicted impact to upland forest habitat (1,073.06 acres) within the analysis area, there is the potential for the loss of 9.43% of existing suitable roosting and foraging habitat by the year 2020 (Table 3.7-2).

<i>Table 3.7-2. Indicator #1 – Summer Roosting and Foraging Habitat</i>						
<b>Indicator</b>	<b>Alternative 2 (2013)</b>			<b>Alternative 2 (2020)</b>		
	Existing Acres	Affected Acres	%	No Action Acres	Affected Acres	%
1. Acres of upland forest (MIH 1)	13,626.00	1,073.06	7.88%	11,383.15	1,073.06	9.43%

While the potential loss of 1,073.06 acres of upland forest habitat is unlikely to have measureable population-level impacts, there is the potential for impacts to individuals if suitable roost structures exist on any of the forested land that will be lost to development (Table 2). If cleared during the summer months, removal of occupied roost trees (or snags) could result in the loss of individuals (i.e., take). Although the potential for take exists, it is reasonable to expect that some – if not all – of the individuals impacted could vacate the structure and relocate to an alternative roost site or sites on adjacent USFS land. If removal occurs while non-volant pups are present in the roosts, the likelihood of mortality would increase.



Cumulative effects could occur from habitat loss on other ownerships within the analysis area but development of permanent human infrastructure is not foreseeable. In general, State of Minnesota and other landowners (including the Forest Service) within the analysis area will maintain forestry related management on adjacent properties. Therefore, there may be additional impacts from cumulative actions over the timeframe considered in this analysis though permanent loss of habitat is not anticipated or foreseeable at this time. Changes to mature upland stands could occur but those changes would be temporary in nature and return to mature forest after a period of regrowth. Impacts to occupied roosts could occur but as with the indirect effects of the proposed land exchange, the impacts would be unlikely to have measureable population-level impacts to the northern long-eared bat.

### **3.7.5 Conclusion**

#### **Alternative 1 (No-action)**

Existing conditions and Forest Plan guidance will serve to maintain and restore northern long-eared bat habitat. There would be no cumulative effects because there would be no direct or indirect effects.

#### **Alternative 2**

The proposed land exchange will have no direct effects to northern long-eared bat populations or habitat as it is an administrative procedure and does not directly affect habitat for this species. No effect to the northern long-eared bat is expected from the land exchange alone.

Indirect effects of the land exchange would come from activities proposed by Cook County after the exchange takes place. While the loss of suitable roosting and foraging habitat is unlikely to have measureable population-level impacts, there is the potential for impacts to individuals if suitable roost structures exist on any of the forested land that will be lost to development. If cleared during the summer months, removal of occupied roost trees (or snags) could result in the loss of individuals (i.e., take). Although the potential for take exists, it is reasonable to expect that some – if not all – of the individuals impacted could vacate the structure and relocate to an alternative roost site or sites on adjacent federal land managed under Forest Plan guidance. If removal occurs while non-volant pups are present in the roosts, the likelihood of take would increase.

Potential cumulative effects may occur after federal parcels are exchanged to Cook County. The amount of habitat change in any analysis area would result in *insignificant effects* because the change represents a small percentage of suitable habitat and sufficient habitat is retained to meet Forest Plan objectives, standards, and guidelines that will maintain and restore northern long-eared bat habitat.

The determination for the Cook County Land Exchange is that the project is ***not likely to jeopardize the continued existence*** of the northern long-eared bat.

### 3.7 Regional Forester Sensitive Species

#### 3.7.1 Terrestrial Wildlife

This section summarizes the findings of the Cook County Land Exchange Biological Evaluation (BE) for terrestrial wildlife included on the Regional Forester Sensitive Species (RFSS) list in Region 9 (U.S. Department of Agriculture (USDA) Forest Service Manual sections 2670.3, 2670.5 (3), 2672.4). The species evaluated in this report include all terrestrial animal species on the current Region 9 sensitive species list (USDA Forest Service 2011).

The BE includes information on the potential habitat available in the Project Area and whether or not the RFSS species have known occurrence and/or suitable habitat within the analysis area. The BE also includes information on existing condition, habitat characteristics, direct and indirect effects, cumulative effects, and determinations.

Because of the number of species analyzed in the BE, the effects of the Cook County Land Exchange Project are briefly summarized below. The complete BE provides detail regarding the effects analysis conducted for this document and can be found in the Project File.

#### Alternative 1 (No-action)

Alternative 1 would have ***no effects*** on gray wolf (*Canis lupus*), little brown myotis (*Myotis lucifugus*), tri-colored bat (*Perimyotis subflavus*), heather vole (*Phenacomys ungava*), bald eagle (*Haliaeetus leucocephalus*), northern goshawk (*Accipiter gentilis*), boreal owl (*Aegolius funereus*), great gray owl (*Strix nebulosa*), olive-sided flycatcher (*Contopus cooperi*), bay-breasted warbler (*Dendroica castanea*), Connecticut warbler (*Oporornis agilis*), American three-toed woodpecker (*Picoides tridactylus*), Taiga alpine butterfly (*Erebia mancinus*) or Nabokov's blue butterfly (*Lycaeides idas nabokovi*). Wood turtle (*Clemmys insculpta*) and Freija's grizzled skipper (*Pyrgus centaureae freija*) are not known to occur within the analysis area.

#### Alternative 2

Alternative 2 ***may impact individuals but are not likely to cause a trend to federal listing or loss of viability*** for RFSS with suitable habitat or known occurrence within the analysis area.

#### 3.7.2 Aquatic Wildlife

This section summarizes the findings of the Cook County Land Exchange Biological Evaluation (BE) for aquatic wildlife included on the Regional Forester Sensitive Species (RFSS) list in Region 9 (U.S. Department of Agriculture (USDA) Forest Service Manual sections 2670.3, 2670.5 (3), 2672.4). The species evaluated in this report include all aquatic species on the current Region 9 sensitive species list (USDA Forest Service 2011).

The BE includes information on the potential habitat available in the Project Area and whether or not the RFSS species have known occurrence and/or suitable habitat within the analysis area. The BE also includes information on existing condition, habitat characteristics, direct and indirect effects, cumulative effects, and determinations.

Because of the number of species analyzed in the BE, the effects of the Cook County Land Exchange Project are briefly summarized below. The complete BE provides detail regarding the effects analysis conducted for this document and can be found in the Project File.

### **Alternative 1 (No-action)**

Alternative 1 would have *no effects* on Quebec emerald dragonfly (*Somatochlora brevicincta*), ebony boghaunter dragonfly (*Williamsonia fletcheri*), headwaters chilostigman caddisfly (*Chilostigma itasca*), northern brook lamprey (*Ichthyomyzon fossor*), creek heelsplitter mussel (*Lasmigona compressa*), black sandshell mussel (*Ligumia recta*), Nipigon cisco (*Coregonus nipigon*), and shortjaw cisco (*Coregonus zenithicus*). Lake sturgeon (*Acipemser fulvescens*) are not known to occur within the analysis area.

### **Alternative 2**

Alternative 2 *may impact individuals but are not likely to cause a trend to federal listing or loss of viability* for RFSS with suitable habitat or known occurrence within the analysis area.

### **3.7.3 Plants**

This section summarizes the findings of the Cook County Land Exchange Biological Evaluation (BE) for plants included on the Regional Forester Sensitive Species (RFSS) list in Region 9 (U.S. Department of Agriculture (USDA) Forest Service Manual sections 2670.3, 2670.5 (3), 2672.4). The species evaluated in this report include all plant species on the current Region 9 sensitive species list (USDA Forest Service 2011).

### **Alternative 1 (No-action)**

For Alternative 1, the proposed activities would have no impact on moschatel, swamp beggarticks, triangle grapefern, goblin fern, floating marsh-marigold, fairy slipper, New England sedge, Ross' sedge, Douglas' hawthorn, ram's head lady's slipper, linear leaved sundew, neat spike-rush, Appalachian fir club moss, moor rush, auricled twayblade, American shoregrass, large-leaved sandwort, fall dropseed muhly, dwarf waterlily, Chilean sweet cicely, Canada ricegrass, Oakes pondweed, rough-fruited fairybells, small shinleaf, cloudberry, awlwort, Canada yew, lance-leaved violet, *Arctoparmelia centrifuga*, *Arctoparmelia subcentrifuga*, *Caloplaca parvula*, *Certraria aurescens*, *Cladonia wainoi*, *Frullania selwyniana*, port-hole lichen, *Peltigera venosa*, *Pseudocypbellaria crocata*, *Ramalina thrausta*, *Sticta fuliginosa*, and *Usnea longissima*.

For Alternative 1, the proposed activities may impact individuals of barren strawberry, common moonwort, Michigan moonwort, pale moonwort, ternate grapefern, or least moonwort, but are not likely to cause a trend to federal listing or loss of viability.

### **Alternative 2**

For Alternative 2, the proposed activities may impact individuals of moschatel, swamp beggarticks, triangle grapefern, goblin fern, floating marsh-marigold, fairy slipper, New England sedge, Ross' sedge, Douglas' hawthorn, ram's head lady's slipper, linear leaved sundew, neat spike-rush, Appalachian fir club moss, moor rush, auricled twayblade, American shoregrass, large-leaved sandwort, fall dropseed muhly, dwarf waterlily, Chilean sweet cicely, Canada ricegrass, Oakes pondweed, rough-fruited fairybells, small shinleaf, cloudberry, awlwort, Canada yew, lance-leaved violet, *Arctoparmelia centrifuga*, *Arctoparmelia subcentrifuga*, *Caloplaca parvula*,

*Certraria aurescens*, *Cladonia wainoi*, *Frullania selwyniana*, port-hole lichen, *Peltigera venosa*, *Pseudocyphellaria crocata*, *Ramalina thrausta*, *Sticta fuliginosa*, *Usnea longissima*, barren strawberry, common moonwort, Michigan moonwort, pale moonwort, ternate grapefern, or least moonwort but are not likely to cause a trend to federal listing or loss of viability.

## 3.8 Wilderness

### 3.8.1 Introduction

#### Background – Wilderness Character

The USDA Forest Service has developed guidelines and methods for wilderness monitoring. The purpose of monitoring is to provide managers with a tool they can use to answer key questions about wilderness character and stewardship, such as: what is the current state of wilderness character, how is it changing over time, and how do stewardship actions affect and best preserve wilderness character? The guidelines and methods are documented in the General Technical Report “Monitoring Selected Conditions Related to Wilderness Character: a National Framework”<sup>12</sup>. This report defines the four qualities of wilderness as:

- *Untrammeled* – wilderness is essentially unhindered and free from modern human control or manipulation.
- *Natural* – wilderness ecological ecosystems are substantially free from the effects of modern civilization.
- *Undeveloped* – wilderness is essentially without permanent improvements or modern human occupation.
- *Outstanding opportunities for solitude or a primitive and unconfined type of recreation* – wilderness provides outstanding opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.

This section of the EA analyzes impacts to wilderness character using these four qualities.

### 3.8.2 Analysis Methods

This section summarizes effects analysis from other sections of the EA as applicable to the BWCAW to disclose effects to resources and wilderness character in the BWCAW. In addition, this section analyzes effects of sound on outstanding opportunities for solitude or a primitive and unconfined type of recreation that may occur as a result of development of parcels to be transferred to Cook County. Recommended indicators and measures for monitoring impacts to the wilderness quality of *Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation*, include<sup>13</sup>:

INDICATOR	MEASURE
Remoteness from occupied and modified	Extent and magnitude of intrusions on the

<sup>12</sup> “Monitoring Selected Conditions Related to Wilderness Character: A National Framework” Rocky Mountain Research Station. April 2005. RMRS-GTR-151.

<sup>13</sup> “Keeping it Wild: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System” Rocky Mountain Research Station General Technical Report, July 2008. RMRS-GTR-212.

areas outside the wilderness	natural soundscape
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The analysis includes several indicators to describe the ‘extent and magnitude of intrusions on the natural soundscape’. These indicators are then evaluated for impacts to wilderness character by considering the extent and magnitude of impact created by the project within the context of the existing soundscape and the opportunities for solitude identified in the Forest Plan for the BWCAW Management Area.

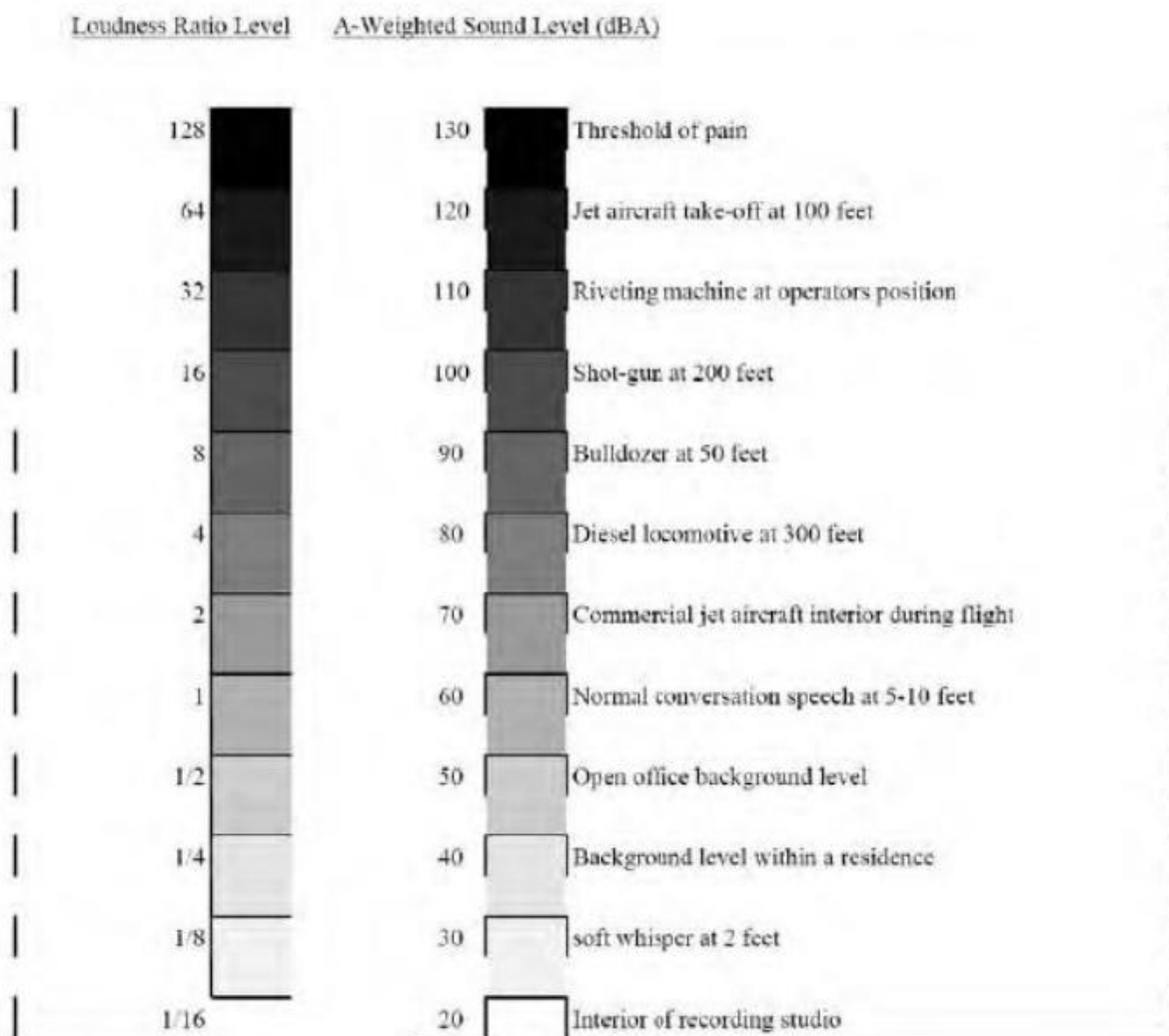
Type of Sound: This indicator evaluates the degree to which a sound introduced by project activities may be considered an intrusion on the natural soundscape. This considers whether the introduced sound is natural or human-made, and whether the sound is already present in the soundscape.

Duration of Sound: This indicator evaluates the duration of time that a sound introduced by project activities would potentially impact the wilderness. This indicator will evaluate the duration of time temporary noise impacts would occur, and the percentage of a year that long-term noise impacts would occur.

Sound Level and Area of Impact: The indicator evaluates how loud the sound would be and where the sound would potentially impact the wilderness. The metric for sound levels commonly used to evaluate impacts to humans is the A-weighted decibel (dBA). The analysis considers two potential impacts: heavy equipment used for construction of fire halls and operation of gravel pits near the BWCAW, and vehicle operations that may occur associated with use of the fire halls. For the construction of the fire hall, it is assumed that heavy construction equipment that produces a sound level of 86 dBA at 50 feet (SPreAD Users Guide Table 2). For vehicle operations (fire trucks), a siren may produce a sound level of up to 120 dBA at 3 meters in front of the truck (NIJ Guide 500-00 Table 8). The truck itself driving on roads may produce a sound level of 76 dBA at 50 feet (SPreAD Users Guide Table 2). The sound level from these sources and area of impact that may occur inside the BWCAW is estimated using a 26 log D attenuation calculation (Braslau 2007). This calculation assumes a forested landscape and takes into account spherical spreading, atmospheric absorption and forest cover. It does not take into account topography, weather, and other variables that may affect sound propagation. In addition, the actual equipment used may emit somewhat different sound levels from the assumptions of sound levels described. Using the 26 log D calculation and assuming a natural ambient sound level of 23 dBA in the BWCAW, the sound produced by the gravel pit operations and construction of the fire hall would attenuate to the natural ambient level at a distance of about 2.5 miles. Sound may be audible for a greater distance when ambient levels are at their lowest; however the analysis focuses on the 2.5 mile distance where the most of the potential effect may occur.

Table 3.8-1 shows examples of sound levels measured in A-weighted decibels for commonly heard sounds<sup>14</sup>:

**Typical A-Weighted Sound Levels of Common Noise Sources**



Under Alternative 2, all except six parcels of land to be transferred to Cook County are at least four miles away from the BWCAW and any activities on those parcels would very likely be inaudible inside the BWCAW and have no effect to this quality of wilderness character. The six parcels closer to the BWCAW are displayed in Table 3.8-2. The two parcels with towers on them (parcels 2 and 5) are existing towers and no changes or developments that would produce additional noise would result from the exchange. Therefore the tower parcels are not discussed further. The gravel parcels (parcels 14 and 15) are assumed to include heavy equipment operation while used and will be further analyzed. One new fire hall is proposed (parcel 29) and may include heavy equipment operation during construction and fire truck/siren use during

<sup>14</sup> Braslau 2011

operation. No change is proposed to the other fire hall (parcel 6) and is therefore not discussed further.

Table 3.8-2: Parcels with potential impact to wilderness character in the BWCAW

PARCEL NO.	TWP	RNG	SEC	DESCRIPTION	GLO ACRES	MAP #	Purpose	Distance to BWCAW (miles)
29	64N	3E	4	G.L. 15	34.89	F-1	FIRE HALL	.37
5	64N	1W	10	NWSW	40	F-7	TOWER	.89
6	64N	1W	9	NESE	40	F-7	FIRE HALL	.69
2	65N	3W	30	SWSE	40	F-8	TOWER	1.03
14	65N	4W	26	NESW	40	F-8	GRAVEL	1.2
15	65N	4W	26	SESW	40	F-8	GRAVEL	1.27

### 3.8.3 Analysis Parameters

The analysis area includes the areas of the BWCAW within 2.5 miles of the fire hall and gravel parcels displayed in Table 3.8-2. A distance of 2.5 miles is used since this is the distance that heavy equipment operation is estimated to produce sound levels above natural ambient sound levels in the BWCAW using the assumptions and methods described in Section 3.8.2. The analysis timeframe for the parcels to be exchanged to Cook County is the timeframe for construction of the fire hall (estimated to be 180 days), and long term operation of the gravel pits (30 years) and fire hall (assumed to be 20 years).

The analysis area also includes parcels to be acquired in the BWCAW by the federal government. The analysis timeframe for these parcels is in perpetuity since the federal government anticipates ownership of lands in the BWCAW in perpetuity.

### 3.8.4 Affected Environment

The BWCAW is part of the National Wilderness Preservation System and is unique in the System in that visitors to the area have the opportunity to travel primarily by canoe. In addition to the recreational opportunities of the BWCAW, it protects over 1 million acres of boreal forest in its natural condition.

The portion of the BWCAW within 2.5 miles of the parcels includes Pine, East Pike, John, North Fowl, South Fowl, and Royal Lakes, and the Royal River near the Fire Hall (parcel 29), and Brant, Missing Link, Mavis, Snipe, and Cross Bay Lakes near the Gravel Pit (parcels 14 & 15). The relevant portion of the BWCAW near the Fire Hall is in the Semi Primitive Non-Motorized Management Area (MA). The Forest Plan (p. 3-45) describes the desired social conditions in this MA as ‘Opportunities for experiencing isolation and solitude are moderate to low.’ The relevant portion of the BWCAW near the Gravel Pit (parcels 14 and 15) also includes the Primitive MA, where ‘this area provides an excellent opportunity for isolation and solitude, relatively free from the sights and sounds of humans’ (Forest Plan p. 3-44).



Sound level measurements on Royal Lake indicate that the natural ambient L<sub>50</sub> sound level<sup>15</sup> inside the BWCAW is about 23 dBA (2012 National Park Service report completed for Superior National Forest). This is a quiet natural soundscape (a lower sound level than a soft whisper at two feet). The total soundscape in the BWCAW includes natural sounds and human-made sounds. Natural sounds include wind, waves, animal calls, and wind action on vegetation. Human-made sounds that intermittently propagate into this area of the BWCAW include that from snowmobiles, logging equipment, cars and trucks, and fire engines responding to emergencies in the winter. Sounds from ATVs, logging equipment, cars and trucks, fire engines responding to emergencies, and fire patrol aircraft intermittently propagate into the area in the summer. Sounds from construction and gravel pit operations may affect the BWCAW in some locations since these activities intermittently occur near the BWCAW boundary.

The non-federal lands in the BWCAW to be acquired from Cook County are currently undeveloped and support recreational opportunities as well as the boreal forest ecosystem. It is possible, however, that these lands could be subjected to human influence or development given applicable laws governing Cook County and the management of county properties. However, management of these county owned areas and access to these areas is currently consistent with adjacent federal lands with no planned or reasonably foreseeable changes.

## Environmental Consequences

### 3.8.5 Direct and Indirect Effects

*Untrammeled:* The untrammeled nature of the BWCAW would be unchanged under any alternative. The project does not include any modification to the BWCAW that would result in manipulation of the components or processes of ecological systems inside the wilderness.

*Natural:* Effects of the proposed action on wilderness ecological systems, including watershed resources and threatened, endangered and sensitive species are described in the EA in sections 3.5, 3.6 and 3.7.

**Watershed:** Alternative 1 would not have an effect to water resources in the wilderness. Overall, Alternative 2 would not have minimal or no effect on the water resources in the wilderness due to the ownership transfer of these lands. There would be a net gain of wetland acres to the federal estate.

**Wildlife:** Alternative 1 would not have an effect to wildlife in the wilderness. The Biological Assessment indicates that Alternative 2 would be not likely to adversely affect wolf, lynx and critical habitat. The Biological Evaluation found that no species would trend towards federal listing. Thus, there would be minor or negligible effects to wildlife, including wildlife that uses habitat in the BWCAW. Habitat inside the BWCAW itself would be unchanged by any alternative.

**Vegetation:** Vegetation inside the BWCAW would be unchanged by any alternative.

**Air Quality:** Alternative 1 would not have an effect to air quality as there is no proposed change to management activity. Alternative 2 does not include actions that have the potential

<sup>15</sup> The L50 sound level is the sound level that is exceeded 50% of a given time period.

for a substantial effect on air quality in the wilderness. As stated in the Air Quality section of the 2007 Superior NF Monitoring and Evaluation Report, prescribed fire has shown the potential for negative effects to air quality in the wilderness, while other Superior NF management activities have not. No prescribed fire is proposed in the parcels under consideration for exchange. In alternative 2, the scale of development proposed on parcels near to the wilderness and described in section 3.8.2 would have negligible negative effects to air quality in the wilderness.

**Potential for Illegal OHV entry:** There would be no change to the potential for illegal OHV entry under Alternative 1. The road building that could occur under Alternative 2 is located in areas that would not increase the likelihood of illegal entry into the wilderness with OHVs. All proposed development of transferred federal parcels is located in areas where roaded development already exists and does not provide potential new or additional illegal OHV entry points.

*Undeveloped:* The undeveloped nature of the BWCAW would be unchanged under any alternative. Under Alternative 1, Cook County would continue to manage lands inside the BWCAW in an undeveloped state. Similarly, under Alternative 2 the Forest Service would manage lands in the BWCAW in an undeveloped state. While Cook County has no plans to conduct management or develop County lands inside the BWCAW, these lands would be managed according to federal regulations on wilderness management under Alternative 2. This would consolidate ownership and increase the efficiency of management of the BWCAW by the Superior National Forest.

*Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation:*

#### Type of Sound

Under Alternative 1, there would be no activities resulting from an exchange that may create new types of sound. Existing sound sources described under *Affected Environment* would continue to occur.

Under Alternative 2, the sound of heavy equipment used in construction of a fire hall would likely be familiar since heavy equipment is used for other activities such as timber harvest, gravel operations, or building construction in the area. The sound of sirens would be infrequent but not new since emergencies would be responded to whether a fire engine is housed in existing or new fire halls. Sounds from gravel operations would not be a new type of sound since similar gravel operations currently exist in locations near the BWCAW.

#### Duration of Sound

Under Alternative 1, there would be no activities resulting from the exchange that would result in additional duration of sound. Existing sound duration described under *Affected Environment* would continue to occur.

Under Alternative 2, there would be construction noise during daylight hours for approximately 90 to 180 days for the fire hall located near McFarland Lake. Emergency response operations sourced from the fire hall are assumed to last for up to 20 years. These operations would be infrequent (estimated by the Hovland Volunteer Fire Department to be 2-5 calls/year) and would

not represent much change from Alternative 1 since emergencies will be responded to no matter the location of existing or new fire halls. There may be some increase in the duration of sirens heard within the BWCAW near the new fire hall since this would be a starting point for the travel route of the fire trucks going to an emergency. The gravel pit may be operated for up to 30 years, although the operations would likely occur in bursts of several months during daylight hours to meet a particular need, interspersed with extended periods of inactivity.

#### Sound Level and Area of Impact

Under Alternative 1, there would be no activities resulting from the exchange that may create sounds impacting the BWCAW. Existing sound sources described under *Affected Environment* would continue to occur.

Under Alternative 2, sound levels from operation of the gravel pit and construction of the fire hall may be above natural ambient levels in the BWCAW as shown in Figures 1 and 2. For the gravel pit, sound levels would be slightly above ambient in the area of the BWCAW shown in Figure 1 due to attenuation with distance. Sound may be more noticeable in the area of the BWCAW near the fire hall since the fire hall is closer to the BWCAW boundary (Figure 2). Several campsites, lakes and portages would be affected both near the gravel pit and the fire hall parcels.

Under both Alternatives 1 and 2, noise produced by fire trucks driving on roads and operating sirens would occur. Sirens produce high sound levels that could produce a brief and intense impact. There may be an increase in sound levels in the BWCAW of Alternative 2 over Alternative 1 due to the fire hall parcel's location.

## Potential Noise Impact Area from Gravel Operations

### Legend

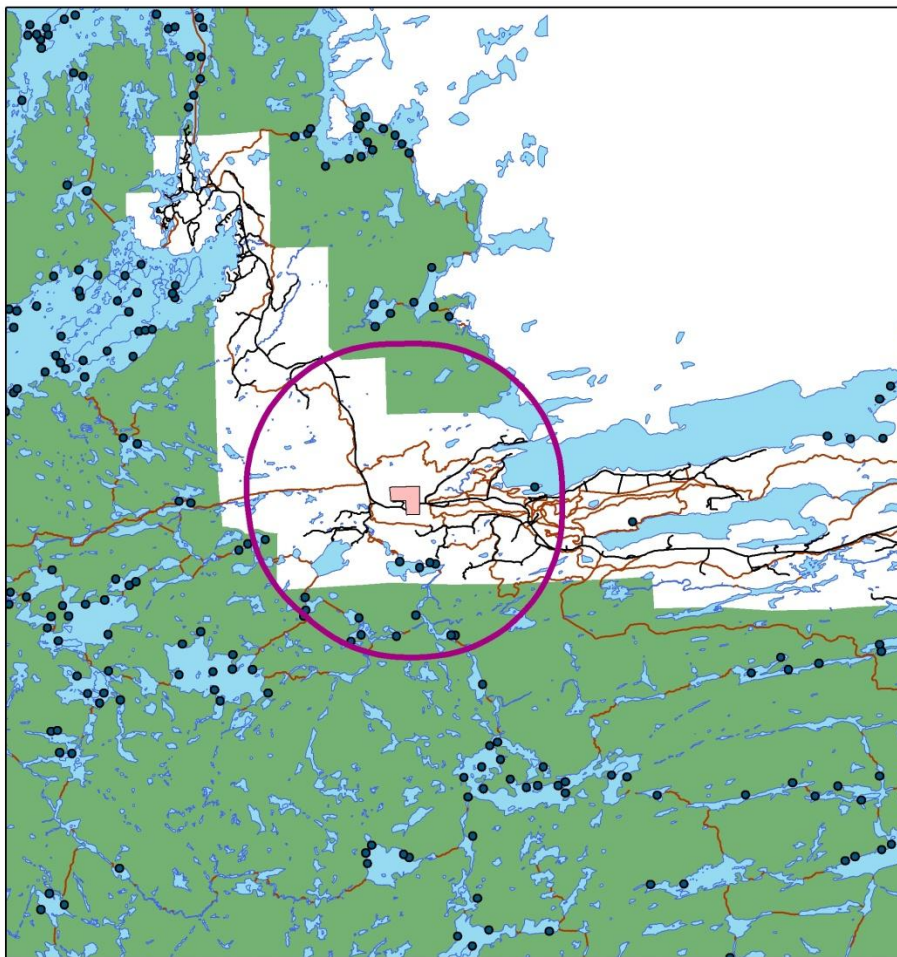
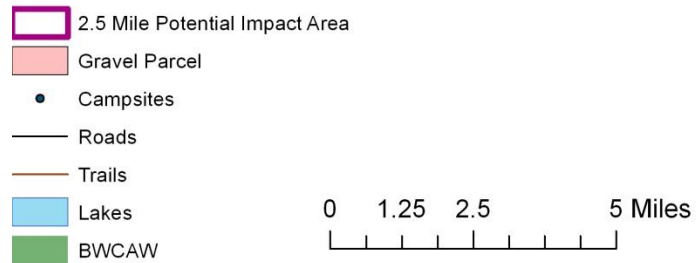


Figure 1. Area where gravel pit operation may produce sound levels above natural ambient in the BWCAW.

## Potential Noise Impact Area from Construction of Fire Hall

### Legend

-  2.5 mile potential impact area
-  Fire Hall Parcel
-  Campsites
-  Roads
-  Trails
-  Lakes
-  BWCAW

0 1 2 4 Miles



Figure 2. Area where fire hall construction may produce sound levels above natural ambient in the BWCAW.

Considering the type of sound, duration of sound, sound level, and area of impact, the effect of fire hall construction and gravel operations would adversely affect this quality of wilderness character in the short term in portions of the BWCAW near the parcel under development. In the short term and corresponding to when construction activities for the fire hall and related improvements would occur, effects would be localized to areas of the BWCAW where impacts to the natural soundscape would be audible and would likely include John Lake and portions of the Royal River shown in Figure 2. There would also be impacts from gravel pit operation as shown in Figure 1.

In the long term, anthropogenic sounds associated with operation of the fire hall due to the use of motorized and other equipment in and around the facility will be localized to the same or larger area of impact, depending upon the type of noise (sirens would affect a larger area than truck engines). This impact is expected to be infrequent (2-5 times per year). It is therefore likely to be an infrequent, but intense, effect when it occurs.

There would be no change to opportunities for solitude or primitive and unconfined recreation under Alternative 1. Anthropogenic sounds as described in Affected Environment would, however, continue to occur under Alternative 1.

### **3.8.6 Cumulative Effects**

The noise created by the operation of the gravel pit would occasionally add to existing noise sources described under Affected Environment to create greater duration of motorized noise heard inside the BWCAW, or slightly increased sound levels (1-3 dBA) if another source was located adjacent to the gravel pit. For the fire hall construction, the same is the case. In addition to the ongoing noise sources near the fire hall, the specific proposal for the South Fowl Lake Snowmobile Access Project would create noise in the Royal Lake area as does construction of the fire hall. However, the construction of the fire hall would occur in the summer while snowmobile operation would happen in the winter; so a cumulative impact is unlikely from snowmobiles on the trail since the noise would not overlap in the same timeframe. A rare, brief cumulative impact may occur from a fire engine responding to an emergency in the winter at the same time a snowmobile is operating on the snowmobile trail.

For the lands inside the wilderness, the Lake County Land Exchange was authorized to trade Lake County lands inside the BWCAW for federal lands outside the wilderness. When added to the Cook County land exchange, this increases the amount of land owned by the United States inside the BWCAW and increases the amount of federal land inside the BWCAW that will be managed according to the direction in the Wilderness Act and the Forest Plan.

### **3.8.7 Conclusion**

Under Alternative 2, there will likely be moderate short term and varied long term localized adverse impacts to the opportunities for solitude or primitive and unconfined recreation quality of wilderness character in the BWCAW due to the extent and magnitude of intrusions to the natural soundscape inside the BWCAW. The gravel operations, construction of the fire hall and fire truck operations would adversely impact the BWCAW, but would not fundamentally alter wilderness character. This is due to the limited incremental change from existing conditions. The existing soundscape in the BWCAW includes anthropogenic sound from gravel operations, construction and emergency response. The land exchange would represent an addition or shift in

these existing sound sources that would create an adverse impact; however this impact would not result in a substantial change in the wilderness soundscape.

Under Alternative 1, there would be negligible or no effects to resources and wilderness character in the BWCAW. Anthropogenic sounds as described in Affected Environment would, however, continue to occur under Alternative 1.

## CHAPTER 4

### LISTS

#### 4.1 List of Preparers and Contributors

The Forest Service consulted the following individuals, Federal, state, and local agencies, Tribes and non-Forest Service persons during the development of this environmental assessment.

##### **Forest Service ID Team Members**

Christy Iozzo: Realty Specialist, Tofte/Gunflint Districts, *Project Leader*

Peter Taylor: Environmental Coordinator, Supervisor's Office, *NEPA*

Melissa Grover: Wildlife Biologist, Gunflint District, *Wildlife*

David Grandmaison: Wildlife Biologist, Supervisor's Office, *Wildlife*

Jason Butcher: Aquatic Biologist, Supervisor's Office, *Water Resources*

Lee Johnson: Archeologist, Supervisor's Office, *Heritage*

Eric Wirz: Geologist, Supervisor's Office, *Minerals and Geology*

Jack Greenlee: Ecologist, Laurentian District, *Ecology*

Suzanne Cable: Asst. Ranger for Recreation/ Wilderness, Tofte/Gunflint Districts, *Wilderness*

##### **Assistance from other Forest Service Employees**

Nancy Larson, Gunflint District Ranger, *Lead Ranger*

Ginny Miller: GIS Specialist, Supervisor's Office, *GIS*

##### **Other Individuals and Organizations**

Cook County

#### 4.2 Distributions List

##### **Scoping Package**

The Cook County Land Exchange Scoping Package was mailed to the forest-wide mailing list and to adjacent landowners, and to others who asked to be notified of the project. The list of people contacted is in the project record. The Scoping Package described the project location, purpose and need, proposed action, and how interested publics could submit comments and remain on the mailing list of the project. Approximately 28 individuals and organizations submitted comments on the project or asked to remain on the mailing list. These people will be notified when the environmental assessment is made available for public review.

The following individuals and organizations either submitted comments on the Scoping Report or asked to remain on the mailing list for the project:

##### Individuals

James Joynes



Myron Bursheim  
Liz and Dana Christiansen  
Scott Hamilton  
Bruce Kerfoot  
Randall Breeden  
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John and Gloria Buetow  
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Steve Watson  
George Humphrey  
Gary Deason  
The Lee Family  
Ted and Marie Egger  
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Charles and Susan Futterer  
Richard Swanson  
Daniel H. Mundt  
Jack Miller  
Kathy Anderson  
Dan Kupietz  
Ann Merschon  
Jim Anderson

Organizations

U.S. Fish and Wildlife Service  
Minnesota Department of Natural Resources